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Report on Kumbhar Excavations  
1951-1955

by

A. S. Altekar  
and  
Vijayakanta Mishra

K. S. Jangam Research Institute,  
Pune-

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**REPORT ON  
KUMRAHAR EXCAVATIONS  
1951-1955**



BY  
**DR. A. S. ALTEKAR, M.A., LL.B., D. LITT.**  
AND  
**MR. VIJAYAKANTA MISHRA, M.A.**



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*Terracotta sealing of Ārogya Vihāra, Period IV*

*Legend : श्री आरोग्यविहारे भिक्षुसंघस्य  
(Śrī Ārogyavihāre bhikṣusaṃghasya)*



# K. P. JAYASWAL RESEARCH INSTITUTE, PATNA

## HISTORICAL RESEARCH SERIES

PUBLISHED UNDER THE PATRONAGE OF THE GOVERNMENT OF BIHAR

*General Editor,*

**Dr. A. S. ALTEKAR, M.A., LL.B., D.Litt.,**

*Director, K. P. Jayaswal Research Institute, Patna.*

इलाध्यः स एव गुणवान् रागद्वेषबहिष्कृता ।

भूतार्थकथने यस्य स्थेयस्येव सरस्वती ॥

कल्हण, राजतरंगिणी, १. ७.

*“He alone is a worthy and commendable historian, whose narrative of events in the past, like that of a judge, is free from passion, prejudice and partiality.”*

Kalhaṇa, *Rājataranginī*, 1. 7.

Vol. III

REPORT ON

**KUMRAHAR EXCAVATIONS:**

1951-1955

*Published on behalf of*  
**THE KASHI PRASAD JAYASWAL RESEARCH INSTITUTE**

*By its Director,*  
**DR. A. S. ALTEKAR, M.A., LL.B., D.LITT.**

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# REPORT ON KUMRAHAR EXCAVATIONS 1951-1955

By

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\*Plates are arranged serially at the end of the book.

## ABBREVIATIONS

A.S.I.,A.R.—Archaeological Survey of India, Annual Report.

J.N.S.I.—Journal of the Numismatic Society of India.

## DIACRITICAL MARKS

We have followed the system of the Archaeological Department in our scheme of diacritical marks.

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Visarga, ḥ





## *Foreword by the Government of the State of Bihar*



The Government of Bihar established the K. P. Jayaswal Research Institute at Patna in 1951 with the object, inter alia, to promote historical research, archaeological excavations and investigations and publication of works of permanent value to scholars. This Institute is one of the five others founded by this Government as a token of their homage to the tradition of learning and scholarship for which ancient Bihar was noted. Apart from the K. P. Jayaswal Research Institute, five others have been established to give incentive to research and advancement of knowledge,—the Nalanda Institute of Research and Post-Graduate Studies in Buddhist Learning and Pali at Nalanda, the Mithila Institute of Research and Post-Graduate Studies in Sanskrit Learning at Darbhanga, the Bihar Rashtra Bhasha Parishad for Research and Advanced Studies in Hindi at Patna, the Institute of Post-Graduate Studies and Research in Jain and Prakrit Learning at Vaishali and the Institute of Post-Graduate Studies and Research in Arabic and Persian Learning at Patna.

As part of this programme of rehabilitating and reorientating ancient learning and scholarship, the editing and publication of the Tibetan Sanskrit Text Series was first undertaken by the K. P. Jayaswal Research Institute with the co-operation of scholars in Bihar and outside. It has also started a second series of historical research works for elucidating history and culture of Bihar and India. The Government of Bihar hope to continue to sponsor such projects and trust that this humble service to the world of scholarship and learning would bear fruit in the fulness of time.



## PREFACE BY THE GENERAL EDITOR

Promotion of historical research and archaeological excavations and explorations is one of the aims of the K. P. Jayaswal Research Institute, Patna. For this purpose it is publishing a Historical Research Series. Its first volume, "Biography of Kunwar Singh and Amar Singh" was connected with modern history, the second volume, "Biography of Chos-rje—dPal Dharmasvāmin" with medieval history and this third volume, "Report on Kumrahar Excavations 1951-1955" is related to the realm of ancient history.

More important than an excavation is the publication of its full and scientific report in an adequate manner. I have, therefore, great pleasure in offering this "Report on Kumrahar Excavations, 1951-55" to the world of scholars.

In a country like India, where contemporary sources of the history of ancient period are not copious, the importance of excavations can certainly be not exaggerated. For a long time non-departmental agencies had no opportunities and facilities to undertake this work. It is pleasing to find that the Government policy has changed, and as a result, a number of non-departmental agencies are taking prominent part in excavations. The K. P. Jayaswal Research Institute is happy that it is doing its duty in this connection also. It trusts that as a result of the discoveries made in the Kumrahar excavations, sufficient new light will be found to have been thrown upon the history of Pāṭaliputra, for a long time the most prominent city in the country. The earlier evolution of the monastic architecture, the utilisation of some of the monasteries as sanatoriums, the mode and the time of the destruction of the Mauryan Hall, etc. will become much clearer as a result of this report than before. Negatively we have proved that the Mauryan palaces and administrative buildings were not located in the extensive plot excavated by Dr. Spooner and the Institute at Kumrahar. We shall have to search for them elsewhere.

Several difficulties were experienced in the preparation and printing of this report. This is a pioneer venture of the K. P. Jayaswal Research Institute and so the natural difficulties associated with such an undertaking had to be overcome. Mr. V. Mishra, who was the Field Director in charge of the excavations and prepared the draft report, left the Institute in 1957 to join the Archaeological Department of the Government of India and so our difficulties increased still further; owing to the great distance that separated us, I could not utilise his services to the extent that I wanted to do; he however corrected the first proof. I am thankful to Sri Sita Ram Roy, M.A. and Dr. B. S. Verma, M.A., Ph.D., the new Research Fellows of the Institute, for helping me in the numerous matters connected with the publication of the Report. Our Senior Draftsman Mr. S. K. Kaviraj was of great assistance, as he was the only person left in the Institute who was present throughout the excavations described here. I am indebted to the Archaeological Department for granting permission to the Institute for excavating at a key site belonging to the Department, and also for allowing me to utilise some of the photographs of the Department.

I am indebted to the Job Press, Kanpur for the nice manner in which the Report has been brought out.

1st November, 1959.

A. S. ALTEKAR,  
*Director,*  
K. P. Jayaswal Research Institute, Patna.



## CHAPTER I

### INTRODUCTION

IN the following report an account has been given of the excavations carried out during 1951-55 under the auspices of the Kashi Prasad Jayaswal Research Institute, Patna, established by the Government of Bihar in November, 1950.

One of the main objects of this Institute was to carry on archaeological explorations and excavations. It took some time to bring the necessary organization into existence and make the usual preparations. The licence of the Archaeological Department was obtained in September 1951 and we could then tackle seriously the problem of the selection of a suitable site.

The state of Bihar is not at all lacking in promising archaeological sites for excavation. Vaiśālī and Nālandā had already yielded rich harvest and could be further excavated. The same is the case with sites like Nandangarh, Bangaon and Rajgir. Bateśvarasthāna, the reputed site of Vikramaśilā University, still awaits scientific exploration and excavation, and the same can be said of a number of other sites and mounds like those at Bihar Sharif, Jayamangalāgarh, Naulāgarh, Janakpur, Baligarh, Dharhārā, Pirnagara, Buxar, etc.

At most of the above mentioned sites, however, short and specific periods of ancient Indian history can be hoped to be tackled, the pre-Mauryan one at Rajgir, the Mauryan and Śuṅga ones at Baligarh and Dharhārā; the Mauryan, the Gupta and post-Gupta ones at Vaiśālī, Jayamangalāgarh; the Pāla one at Naulāgarh, Nālandā and Vikramśilā; and so on. Pātaliputra<sup>1</sup> itself is perhaps the only site in Bihar, where a lucky excavation may lead to the discoveries that can throw light on the Nanda, Mauryan, Śuṅga, Kaṇva, Gupta and post-Gupta periods.

The excavations of D. B. Spooner in 1912-13<sup>2</sup> at Kumrahar, and of M. Ghosh at Bulandibagh in 1926-8<sup>3</sup> had led to important discoveries and it was felt that further work might be started at these sites. There were questions of practical consideration also, which suggested the same course. Dr. A. S. Altekar, then the Hony. Director of the Institute, was also a University Professor at Patna University and the student supervisors of excavations, who belonged to his post-graduate classes, could not conveniently stay away from Patna for a long time. It was, therefore, decided to further excavate the area at Kumrahar,<sup>4</sup> situated 3½ miles to the east of Patna Junction Railway station. The excavations were started on the 28th of March, 1951 with the co-operation of the Archaeological Department and the Patna University. Shri Krishna Deva, M.A., Superintendent, Archaeological Department, Mid-Eastern Circle, Patna (1949-53) and his successor, Dr. D. R. Patil, M.A., Ph.D., offered valuable co-operation in the excavation work. Shri Krishna Deva acted as Field-Director in the first season and later on offered valuable advice and guidance. The

<sup>1</sup> The city is located 25° 37' north lat. and 85° 10' east long.

<sup>2</sup> *A.S.I., A.R.* 1912-13 pp. 53-86. <sup>3</sup> *Ibid*, 1926-7, pp. 135 ff.

<sup>4</sup> It is a village south of the present city of Patna, close to the road which is parallel to and to the south of the railway line. The name, however, denotes not only the village but also the adjoining cultivable land.

Institute is also grateful to the Archaeological Chemist, Dr. B. B. Lal, for treating our coins and iron objects. The Superintendent, Archaeological Department, Mid-Eastern Circle, Patna, placed the services of his photographer at our disposal whenever they were needed.

The excavations of the 1st season, (March to May, 1951) were carried on almost entirely by the staff and students of the Department of Ancient Indian History and Culture, Patna University. The main work was entrusted to Shri Vijayakanta Mishra, the-then Research Assistant in the above Department. Dr. B. P. Sinha, Mr. Basudeva Upadhyaya and Mr. M. M. Singh of the Department of Ancient Indian History and Culture, Patna University, Mr. Yogendra Mishra of the History Department of Patna College and Messrs. A. K. Narain, Mangal Nath and Ratan Chandra Agarwal of Banaras Hindu University, Mr. R. K. Chaudhari of Begusarai College and Mr. B. N. Mishra of Nālandā Museum also offered valuable help. Besides all the post-graduate students of the Department of Ancient Indian History and Culture participated in the work.

From the second season (January to April, 1952), Mr. Vijayakanta Mishra, who had been then appointed Research Fellow at the K. P. Jayaswal Research Institute, worked as the Field-Director. Besides Dr. B. P. Sinha, Mr. Basudeva Upadhyaya, Mr. Madan Mohan Singh, Research Assistant, and the post-graduate students of the Department of Ancient Indian History and Culture and Mr. D. K. Sinha of the Banaras Hindu University, Messrs. R. C. Agarwal, Aruna Deva Singh, Bhaskar Nath Mishra and Yogendra Mishra also offered valuable assistance as field supervisors.

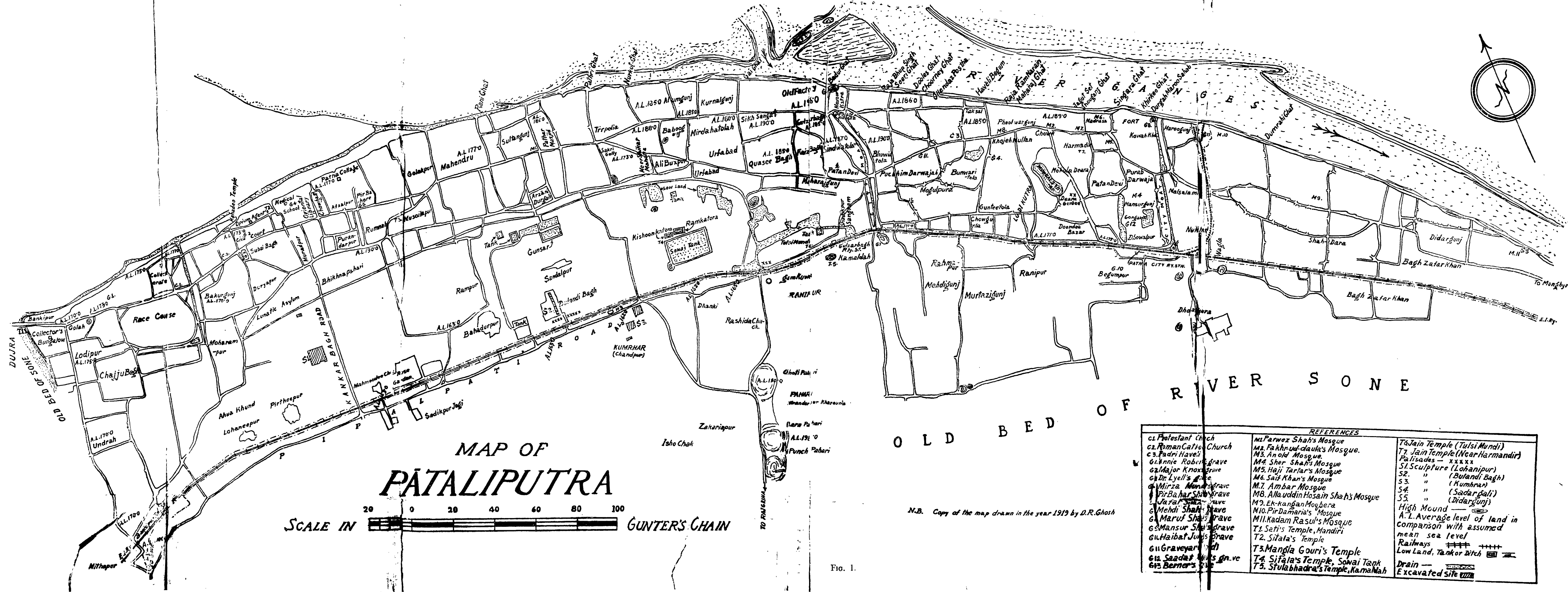
During the third year excavation, (January to July, 1953) Mr. R. K. Sharma of the Chapra College, Messrs. M. S. Pandey, J. S. Jha and Q. Ahmed, Research Fellows of the Institute, two post-graduate students of the Department of Ancient Indian History and Culture, Patna University worked as supervisors. During the fourth excavation season (February to May, 1954) Pandit Shri Vishnu Lal Shastri, Messrs. Surendra Prasad and Mithilesh Kumar Sinha of History Department, Patna College and Messrs. Madan Mohan Singh, S. R. Roy, B. S. Varma and H. K. Prasad of Department of Ancient Indian History and Culture, Patna University, offered valuable assistance in the excavation. During the fifth season (January to April, 1955) the excavation was entirely conducted by the excavation staff of the Institute.

Dr. A. S. Altekar, the then Hony. Director of the Institute, was guiding and supervising the excavation operations except during the fourth excavation season (February to May, 1954), when he was away at Yale University, U.S.A., as a visiting Lecturer.

Our Surveyor-cum-Draftsman Mr. S. K. Kaviraj and Photographer-cum-Draftsmen Messrs. S. Chatterji and N. Ghosh were of very great assistance to us in the excavation and allied work.







## CHAPTER II

### ANCIENT PĀṬALIPUTRA

PĀṬALIPUTRA or Patna is no doubt one of the most important cities of ancient India, but it is relatively young in age. Takshaśilā and Pushkalāvati in the Punjab, Mathurā, Hastināpura and Śrāvastī in northern U.P., Kauśāmbī, Vārāṇasī and Ayodhyā in southern U.P. are undoubtedly older. In Bihar itself, Rājagṛīha, Champā and Vaiśālī go back to a greater antiquity than Pāṭaliputra. The latter city, however, enjoyed the prestige of the capital of big empires for a longer period than most other cities of ancient India.

It is not easy to account for the name of the city. There are hardly any other towns or cities in India ending with the term *putra*. Pāṭali is no doubt the name of a species of trees, called *Flueggea Leucopyrus* in Latin; but according to Professor R. P. Roy, the Head of the Botany Department of Patna University, this species is found in Burma, the Punjab and the Deccan peninsula from Canara southwards. It is quite abundant in Ceylon, but not known to Bihar. Other sub-species of the shrub grow in eastern Bihar, but not in or around Patna.

Popular legends, however, are persistent in associating the tree Pāṭali with the name of the city. It may be that a Pāṭali tree, which is so uncommon in Bihar, was found to grow here as a solitary specimen and so the place came to be known after it.

There are three legends associated with the origin and name of the city; one of them is tragic and the other two romantic. The *Parīśiṣṭaparvan*<sup>1</sup>, a Jain work of the 12th century, states that a Jain sage was unjustly impaled in this locality by a cruel king; in his skull a seed of Pāṭali tree fell and germinated. We are told that when in c. 460 B.C. Udāyi wanted to change his capital from Champā, he sent out augurs to select an auspicious site. In course of their explorations they came to the site of present Patna, to the south of the Ganga, and saw the Pāṭali tree above referred to. There was a Chasha bird perched upon it; it was seen opening its mouth off and on, and insects would of themselves fall into it to be devoured. The augurs, noticing this, decided to recommend the site to the king, probably concluding that other states would be automatically surrendering themselves to the king of the new city, when he was inclined to entertain a plan of aggrandizement. Udāyi therefore decided to build his new capital at this place. This legend has hardly any historical value; it only attests the later belief in the invincibility of Pāṭaliputra.

The other two legends about the origin of the name are romantic. We are told in the first legend that a moody student, who had gone to collect sacred fuel in the forest on the present site of the city, was married to a Pāṭali tree by his companions in mere frivolity in order to see whether this would remove his gloom. When the evening came in, the students started back for their Āśrama, but their moody companion declined to move away from his tree-bride. They had to leave him there in despair. When the night set in, we are told, that the tree-spirit made its appearance and presented the student with his daughter in flesh and blood as his bride. The couple then stayed under the tree and

<sup>1</sup> Canto VI, 22 ff.

gradually a settlement grew there, which was named after their son and was, therefore, called Pāṭaliputra.<sup>1</sup>

The *Kathāsaritsāgara* narrates an equally legendary story to account for the name of the city. Putraka, the son of a Brāhmaṇa, possessed magical powers of flying through the air and becoming invisible. He fell in love with a princess named Pāṭali and used to visit her secretly at night for several days. When his secret visits became known to the king, he flew away with his sweetheart. When the latter became tired, he alighted on the bank of the Ganga, where he planned and developed a new city which became known after their joint name Pāṭaliputraka. Such legends are very interesting and romantic, but have obviously no historical or even philological value. They only show that the real derivation of the name was unknown to people even in the ancient period.

The foundation of the city of Pāṭaliputra is due to the anxiety of the kingdom of Magadha to defend itself against the warlike Lichchhavis of Vaiśālī, who were for some-time a source of great anxiety to king Ajātaśatru of Rājagṛiha (c. 495-470 B.C.). The site of modern Patna was then strategically more important than it is now, for even the Soṇ<sup>2</sup> joined the Ganga near the city, and so it could command the river traffic coming down the Ganga, the Soṇ, the Gaṇḍak and the Punpun. Sunīdha and Vassakara, two ministers of Ajātaśatru, therefore, decided to build a fort at what was then called Pāṭaligrāma.<sup>3</sup> This settlement grew gradually till first it became the capital of Magadha, then of what is now known as Bihar, then of the Gangetic valley and eventually of practically the whole of India. The settlement, however, was still a humble one when the Buddha passed through it during his last journey from Rājagṛiha to Kusināra. He is, however, said to have predicted its greatness by stating that as far as Aryan people resort, as far as merchants travel, this would become the chief city, a centre for the interchange of all kinds of wares. The statement attributed to the Buddha might well have been a real one; it refers to the commercial prospects of the town and not to its political ones. The Buddha is stated to have predicted that the city might perish through fire, flood or mutual dissensions.<sup>4</sup>

The Ghat from where the Buddha embarked on his last journey was known as the Gotamaghat down to the 7th century, when Yuan Chwang had visited the place.<sup>4</sup>

It naturally took some time for the new fort-city to develop and the capital was not transferred to it immediately by Ajātaśatru. As long as the Lichchhavis were a strong and menacing power, it was not also safe to do so. When, however, the Lichchhavi republic was overthrown and its dominion annexed by Ajātaśatru, probably towards the end of his reign, it became a safe and practical proposition to shift the capital to the new fort-city. Ajātaśatru did not take the step; he had probably a soft corner for New Rājagṛiha which he had laid out and developed. The Jain tradition<sup>5</sup> states that it was Udāyi, the successor of Ajātaśatru, who transferred the capital to the new city and the Purāṇas confirm the statement<sup>6</sup> though they interpose the reign of Darśaka between that of Ajātaśatru and Udāyi. The citizens of Rājagṛiha of course did not like that change, but when they realized that it was inevitable, there was a competition among them for securing suitable plots in the new capital. Main buildings were ready by the 4th year of Udāyi's reign, when

<sup>1</sup> Watters, on *Yuan Chwang*, II, p. 87

<sup>2</sup> The correct spelling of the Sanskrit name is Soṇa. We are using the current spelling Soṇ.

<sup>3</sup> *The Dialogues of the Buddha*, II p. 92.

<sup>4</sup> *Ibid.*, p. 94.

<sup>5</sup> Hemachandra, *Parīśiṣṭaparvan*, VI, 34 ff.

<sup>6</sup> स (उदायी) वै पुरवरं राजा पृथिव्यां कुसुमाह्वयम् । गंगाया दक्षिणे कूले चतुर्थेऽब्दे करिष्यति ॥  
*Dynasties of the Kali Age*, p. 22.

the capital was actually transferred to the new city.<sup>1</sup> The Jain tradition does not fail to record that a Jain temple had been constructed in the heart of the city. This might well have been the case.

The statement of the Jain tradition that king Udāyi transferred the capital to Pāṭaliputra is confirmed by the Purāṇas and may be taken as true. The reason given by the Jains is, however, hardly acceptable. We are told that when his father died and Udāyi ascended the throne at Champā, he found the place very sad owing to his late father's association with almost everything there. He called his ministers and said, "The Assembly Hall here reminds me of my late father, who used to sit on its throne with me on his lap when I was a boy; the orchard reminds me of him because he used to go there for pleasure. Almost every place and every object brings to my mind his sad memory and I cannot get over my bereavement as long as I stay at this place. Let us, therefore, change the capital."<sup>2</sup> We are then informed that the augurs went out in search of a suitable place and selected the site of present Patna because of the presence of a Pāṭali tree there that had grown in the skull of a Jain saint, as narrated already.

The historian will naturally prefer the almost contemporary account of the Buddhist scriptures to the Jain legend recorded by Hemachandra 1500 years later. The strategical importance of the site was the cause of its selection as the new capital and not the presence of a miraculous Pāṭali tree. It is extremely doubtful whether Champā was the capital at the beginning of the reign of Udāyi, as narrated by Hemachandra. It may be that Udāyi was enabled to get over his sense of bereavement when he shifted to the new capital, as his father's life was not associated with the new city; but the main reason why he decided to transfer his capital to the growing fort-city was its strategic importance. When the Lichchhavi power was annihilated towards the end of his father's reign, it became a safe proposition to transfer his capital to Pāṭaliputra, and he took this step soon after his accession.

According to the Buddhist tradition, Udāyi was succeeded by Aniruddha and the latter by Muṇḍa, and the *Anguttara Nikāya* expressly describes the latter as ruling at Pāṭaliputra. Some scholars identify Nāgadasaka, the successor of Muṇḍa according to the Buddhist tradition, with Śiśunāga of the Pauranic texts; and since the Purāṇas state that Śiśunāga left his native city Banaras for Rājagriha on becoming the king of Magadha, it is argued that Pāṭaliputra was abandoned in favour of Rājagriha by the new king. This theory is based upon a fallacy. The Pauranic tradition which records the departure of Śiśunāga for Rājagriha is quite consistent with its stand that this ruler was a predecessor, not only of Udāyi but also of Ajātaśatru and Bimbisāra; at that time Rājagriha was the capital and the Purāṇas naturally represent the founder of the new dynasty as repairing to the-then capital. It is interesting to note that in the Buddhist tradition Nāgadasaka (identified with Śiśunāga of the Pauranic list) is not described as changing the capital to Rājagriha, which had been superseded in the reign of his third predecessor Udāyi. To reconstruct history by piecing together two parts of mutually inconsistent traditions is hardly sound. We should, therefore, conclude that there is no reason to hold that Pāṭaliputra was for some time superseded by Rājagriha. If Śiśunāga or Nāgadasaka was really engaged in a war with Avanti, it is hardly possible that he

<sup>1</sup>The Purāṇas insert the reign of the king Darśaka between Ajātaśatru and Udāyi; but this does not seem to correspond with reality. The Buddhist tradition, which makes Udāyi the immediate successor of Ajātaśatru, seems to be more reliable. If we accept the Pauranic genealogy, we shall have to suppose that Government took more than a generation to decide as to whether the capital should be shifted to the new city.

<sup>2</sup>*Parīśiṣṭaparvan*, VI, 22

could have even thought of changing his headquarters from Pāṭaliputra, which was an ideal port for transporting troops to attack Kausāmbī, which was then an outpost of Avanti.

The Nandas who succeeded the Bimbisāra dynasty extended the bounds of their empire to the Punjab and their capital Pāṭaliputra became an important military centre. The defences of the city consisting of the palisades, towers and ditches, which were well-developed at the time of Megasthenes, should naturally be attributed to the Nandas. They must have been fully serving their intended purpose of providing strong defence. Being the capital of the-then biggest empire in India, it was attracting scholars from far and wide. No doubt, it is a 10th century poet like Rājaśekhara, who informs us that great scholars and authors like Piṅgala, Pāṇini, Vyādi, Varsha, Upavarsha and Kātyāyana had come to Pāṭaliputra to get their scholarship recognized by the synod of the scholars there.<sup>1</sup> We can well accept its correctness. That the Jain Council under Sthūlabhadra met at Pāṭaliputra to finally settle the canonical text and that the 3rd Buddhist Council met also at the same place in the reign of Aśoka would show that the Jains and Buddhists also regarded it as a great centre of learning, fit to be the natural venue for such important meetings.

We can get a fairly vivid picture of Pāṭaliputra at about 300 B.C. from the accounts of Megasthenes, though they are fragmentary. The ancient city, like the modern one, was long but narrow; it was 80 stadiums (nearly 9 miles) long and 15 stadiums (nearly  $1\frac{1}{2}$  miles) broad and in the form of a parallelogram.<sup>2</sup> The circumference of the city was nearly  $22\frac{1}{2}$  miles (Fig. 1). This description would more or less suit the present Patna, whose length is about eight miles from Golghar to Malasalāmi; we may suppose that the ancient city extended further east to Didarganj, where the beautiful statue of Yakshiṇī was found.

This view obtains some further confirmation from the circumstance of the discovery of the remnants of the wooden palisades from Lohanipur in the west, through Bahadurpur, Bulandibagh, Kumrahar, Maharajkhand and Sewai Tank to Gandhi Tank in the east near the Chowk. There are, however, some difficulties in accepting this view. The location of the eastern gate, Purab-darwaja, and the western gate, Paschima-darwaja,  $8\frac{1}{2}$  and 5 miles from Golghar, would suggest that the old city did not extend much beyond these points at least at some period of its existence. It is further doubtful whether the old city was so closely on the bank of the Ganga. Fa Hien had to walk about five miles after leaving the river before he could reach the city. This would suggest that the Ganga might be flowing further to the north of the present city and it is possible that its present course may have cut off a portion of its northern part. Matters, however, become further complicated by the statement of Patañjali, who concedes that Hastināpura and Vārāṇasī (Banaras) can be called as located along the Ganga, but points out that Pāṭaliputra has to be described as spread along the Soṇ, because its length along that river was greater than its breadth along the Soṇ.<sup>3</sup> It is well known that the latter river joined the Ganga near Patna, but its precise course has not yet been traced. The depression along the Gardiner road is usually believed to be the old bed of the Soṇ, which is taken to have joined the Ganga near the Collectorate. Typical red Soṇ sand has been found in borings in this area. But the lengthy depression along the railway line from Patna Junction to Patna City has also to be considered; it could also have been the Soṇ or a part of its canal. The indications given by the account of Yuan Chwang, however, suggest that a considerable part of at least the

<sup>1</sup> *Kāvya-mīmāṃsā*, p. 55 (Gaekwar Or. Ser. Edition)

<sup>2</sup> Megasthenese, fragment 26.

<sup>3</sup> यस्य चायामः । अनुगंगं हस्तिनापुरम् । अनुगंगं वाराणसी । अनुज्ञोणं पाटलिपुत्रम् । यस्य चायाम इत्युच्यते । गंगा चाप्यायता वाराणस्यप्यायता । तत्र कुत एतद्वगया सह समासो न वाराणस्या । *Mahābhāṣya* on II-1-16.

administrative area extended to the south of this depression. The mystery of the exact extent of ancient Pāṭaliputra can be solved only by determining the old course of the Son down to Patna which has not yet been done.

Megasthenes tells us that the capital was surrounded on all sides by a broad and deep ditch, 600 feet broad and 45 feet deep, in which the drainage of the city was allowed to empty itself. Prima facie, this description of a ditch nearly a furlong wide appears incredible, but we can well accept its correctness, when we look at the great depressions still left behind. It is not improbable that a part of the depression along the railway line might have been this ditch. The *Arthaśāstra* states that ordinary forts should have three moats 84, 72 and 60 feet wide, each separated from the other by a distance of six feet only.<sup>1</sup> If the total breadth of the moats round an ordinary fort was 218 feet, we can well believe that the one around ancient Patna, the proud capital of an all-India empire, might well have been 600 feet, as noted by Megasthenes. The evidence of the Udaya Jātaka shows that out of these three moats round a fort, one used to be a dry one (*sukha*), the other a muddy one (*kaddama*) and the third a watery one (*udaka*). Ancient Pāṭaliputra was, however, content with one huge watery moat, instead of the three ones mentioned above, probably because it could be kept full of water with the help of canals taken out from the two rivers. A statement in the Yugapurāṇa of the *Gārgīsamhitā* refers to the bloody fight with the Greeks in the muddy moats of the city;<sup>2</sup> probably the canal water supply could be cut off when the difficulties of the enemy were sought to be intensified by making him cross a deep miry ditch.

The *Arthaśāstra*<sup>3</sup> states that at a distance of 24 feet from the innermost ditch, a rampart was to be constructed in mud, 36 feet in height and 72 feet in breadth. Pāṭaliputra had its own ramparts, but not exactly agreeing with this description. According to Megasthenes, the city was surrounded by palisades in wood, and we have traced its remnants at Lohanipura, Bulandibagh, Bahadurpur, Kumrahar, Maharajakhand, Sevai Tank and Gandhi Tank, when deep diggings were made at these places for well-digging etc. The vertical posts of the palisade found in the last century were usually 18 feet in height. Their cross section varied from 12" to 18".

The excavations carried at Bulandibagh in 1926-27 have thrown further but perhaps not completely satisfactory light on the famous palisades of the city.<sup>4</sup> At this place a section of the palisade was unearthed, about 250 feet in length, running from east to west. There were two rows of upright pillars at a distance of 14 ft. 6 in. from each other. The uprights were about 12 ft. above the floor. The space between the two rows was covered with wooden sleepers at an interval of about one foot from one another; their ends were tenoned into the upright palisade posts. The uprights continued some five feet deeper than the floor beams and were fixed on wooden planks laid on a bed of rammed Kankar. There were definite indications that the uprights were protected by thick wooden planks laid horizontally along the outside and fixed to them by wooden pegs. It appeared from the remains that the wooden wall was covered with earth upto a certain height, which could not be exactly ascertained. Between the two rows of the uprights, there was obviously a hollow passage for the free movement of the defenders.

The uprights were originally spanned by wooden beams, one of which was found *in situ*. It would appear that the ramparts had thus a wide passage above them, described

<sup>1</sup> II. Chap. 3.

<sup>2</sup> ततः पुष्पपुरे प्राप्ते कदम्बे प्रथिते हिते । *Yugapurāṇa*, p. 38 (Mankad's edition).

<sup>3</sup> II, chap. 3

<sup>4</sup> *A.S.I., A.R.*, 1926-27, pp. 135 ff.

as *devapatha* by the *Arthaśāstra*.<sup>1</sup> At one place the palisade posts were found to be sloping. It is not unlikely that the sloping end served as a ramp to afford access to its top.

The floor beams of the palisade were 22 feet below the present level at Bulandibagh and the foundations of the palisades were 5 feet deeper.

We have only a very general idea of the nature of the ramparts of ancient Pāṭaliputra. The city was famous for them and no traveller could complete his account of the capital without describing the ramparts in detail.<sup>2</sup>

The rampart wall had 570 towers. The known circumference of the city, about 22½ miles in extent, suggests that these towers were at a distance of about 220 feet from one another. The bowmen defending them could effectively attack any army marching against the rampart. Probably there were holes in the rampart and towers, from which the bowmen could dart their arrows without much danger to themselves.

Naturally there were gateways (*torāṇas*) for ingress and egress and their number was 64 according to Megasthenes. One such gate was traced in the palisade wall at Bulandibagh. It had octagonal posts on either side, one of which could be recovered; the height of the surviving fragment was 13 feet. The breadth of the gate could not be exactly ascertained; it might have been about 15 feet.

According to the *Mudrārākshasa*, the name of the palace of Chandragupta Maurya was Sugāṅga.<sup>3</sup> Obviously it was on the bank of the Ganga, but its precise location has not yet been found. Some think that it was to the south of Shaha Arjuni Dargah which is to the south of Pattharki-Masjid; according to others it was near Sadargalli opposite Khwaja Kalam Ghat, where some Mauryan pillars were found by Spooner in 1912 and by us in 1956.

We have no contemporary description of the roads in the city; some of them might have been narrow and some wide. The modern excavations have, however, unearthed an elaborate system of underground wooden drainage. A portion of this drainage, 40 ft. in length, was found at Bulandibagh, crossing the palisade at right angle. The bottom of the drain was 10 ft. below the floor level of the palisade or 32 ft. below the present surface level at Bulandibagh. The drain consisted of two lines of wooden posts, about 10 feet in height, which were framed together about 8 ft. 10 in. from the top with heavy sleepers. The space between the sleepers, as also between the uprights, was covered by heavy wooden planks. The internal height of the drain was 6 ft. 3 in. and breadth 3 ft. 6 in. To keep the side and bottom planks in position there were stout wooden battens, each fixed to the posts with two heavy iron nails, about 2 feet long. All the joints of the planks were made water-tight with strips of iron, 3 in. in width and fixed with small iron nails to the planks.

The prosperity of Pāṭaliputra must have rapidly increased with the growth of the Mauryan empire. In the days of Aśoka the daily octroi duty at the city is said to have amounted to four lakhs of Kārshāpaṇas. The majestic Hall of 80 pillars at Kumrahar was probably designed and built by Chandragupta. There may have been built a palace to match it, which we have yet to discover. Aśoka enriched the city by a number of beautiful structures after he had embraced Buddhism. He built several Stūpas; one containing the relics of the Buddha, a second one commemorating his gift of an Āmalaka fruit to the Saṅgha and a third one commemorating the place, where the Buddha had

<sup>1</sup>Kaṭilya recommends (II. 3) that the *devapatha* of the forts should be 72 feet in breadth. At Pāṭaliputra, it seems to have been only 15 or 16 feet.

<sup>2</sup>अवयवशो हि आख्यानं व्याख्यानम् । पाटलिपुत्रं चावयवशो व्याचष्टे ईदृशा अस्य प्राकारा इति । *Mahābhāṣya* on IV.3.16.

<sup>3</sup>भो भोः सुगांगप्रासादाधिकृताः पुरुषाः । Act III, after verse 1.



prophesied the greatness of the city. In the 7th century A.D. one pillar of Aśoka was still in existence, believed to be commemorating his gift of the kingdom three times to the Buddhist community in an inscription upon it, which was then partly blurred. Aśoka also built several monasteries in Pāṭaliputra and at one of these, named Aśokārāma-vihāra, the 3rd Buddhist Council was held in the 17th year of his reign under the presidency of Moggaliputta Tissa, also known as Upagupta. One Vihāra was probably built for Kumāra Mahendra also, probably in the vicinity of Kumrahar, which seems to be a corruption of Kumāravihāra. This monastery is yet to be discovered. It is likely that the Panch-pahāḍī Mounds may also have been originally connected with some monastic or Stūpa structures built by Aśoka. It is a pity that modern research and exploration has not yet succeeded in discovering and identifying any of the Stūpas, monasteries and pillars of Aśoka near Patna.

The prosperity of Pāṭaliputra received a temporary set back in the first half of the 2nd century B.C., when it was besieged and stormed by the Indo-Bactrians under the leadership, probably of Menander or Apollodotus. The Greek capture of the city is curiously enough not referred to by the Greek historians (of the later period), but it is mentioned by the Yugapurāṇa of the *Gārgīsamhitā*. This authority tells us in the usual prophetic vein that the Yavanas will capture the city but will not be able to stay there for long; the citizens will drive them out and celebrate the event with suitable festivities.<sup>1</sup>

To judge from the references in the *Pāṭañjala-Mahābhāṣya* (whose author flourished at Pāṭaliputra itself) and the stories in the *Kathāsaritsāgara*, the original of which may well be going back to the beginning of the Christian era, Pāṭaliputra continued to be the leading city of northern India in the post-Mauryan period also. Patañjali refers to it in several stock examples and we learn further from his *Bhāṣya* on II. 1. 16, as noted already before, that the extent of the city along the Son was longer than that along the Ganga. It was conceded that its citizens were more cultured than those of other competing cities like Saṅkāśyā.<sup>2</sup> The *Kathāsaritsāgara* shows that the women of the city were regarded as very clever; it narrates how two young men, who prided themselves upon their wit and learning, were outwitted by a girl in her teens by undertaking to supply them hot mangoes from the top of the tree on which she was plucking them.<sup>3</sup> Pāṭaliputra continued to be the centre of learning; scholars used to visit it from Mālwā and Kashmir.<sup>4</sup> A number of famous authors flourished and wrote at Pāṭaliputra; the most famous among them was Patañjali, the author of the *Mahābhāṣya* (c. 150 B.C.).

Pāṭaliputra became an important centre of Buddhism from the time of Aśoka. The third Buddhist Council was held here under Upagupta during the reign of that emperor. The excavations at Kumrahar, described in this Report, have disclosed a number of Buddhist monasteries within a stone's throw of the Pillared Hall, going back to the Śuṅga period, though none of them reaches back to the Mauryan age. It appears that Buddhist monasteries continued to exist in Pāṭaliputra in spite of the alleged Śuṅga persecution. The city was also a centre of Buddhist learning; Nāgasena, the famous preceptor of Menander, had completed his advanced education in the Aśoka park of Pāṭaliputra in

<sup>1</sup> यवनाश्च सुविक्रान्ताः प्राप्स्यन्ति कुसुमध्वजम् । ततः पुष्पपुरे प्राप्ते कर्दमे प्रथिते हिते ।

आकुला विषयाः सर्वे भविष्यन्ति न संशयः । *Yugapurāṇa*, p. 33

<sup>2</sup> संक्राश्येभ्यः पाटलिपुत्रका अभिरूपतरा इत्यत्र न स्यात् । *Mahābhāṣya* VII. 3.13

<sup>3</sup> The girl threw the mangoes upon a heap of dust; the young men ate them after removing the dust by the mouth breeze and then the girl told them laughingly that they were hot mangoes as they used the mouth breeze before eating them; V. 180 ff.

<sup>4</sup> *Kathāsaritsāgara*, Chaps. X, XVI.



the second century B.C.<sup>1</sup> We learn from inscriptions that some Buddhists of the city used to visit outside Buddhist centres like Bharhut and make donations there in c. 2nd century B.C.

Jainism also had an important centre at Patna. Sthūlabhadra, one of the Jain patriarchs, is known to have convened a council in Pāṭaliputra in the reign of Chandra-gupta Maurya (c. 300 B.C.). It is quite in keeping with this tradition that there should be a temple of Sthūlabhadra in the city, which is located in the Gulzarbagh ward. Another evidence of the existence of a Jain centre at Pāṭaliputra in the 4th century B.C. is supplied by a beautiful nude image, probably of a Tīrthaṅkara, discovered at Lohanipur near Kadam Kuan. The shining polish of this image shows that its antiquity goes back to the Mauryan period.

The Śuṅgas were succeeded by the Kaṇvas who ruled only for a short period of 45 years. The history of the city from the fall of the Kaṇvas to the rise of the Guptas is shrouded in obscurity. If we are to trust the Pauranic tradition, it was Simuka, the founder of the Sātavāhana dynasty, who supplanted the last Kaṇva ruler and established himself apparently at Pāṭaliputra. There are, however, considerable difficulties in accepting this tradition. It is doubtful whether Simuka was a contemporary of the last Kaṇva ruler. Nor is it very clear as to whether any Sātavāhana ruler had ever captured Pāṭaliputra. The Sātavāhanas had advanced as far as Jabalpur and Raipur in the west, but we have so far found no epigraphs or coins at Patna suggesting the Sātavāhana conquest of the city. Perhaps they might have succeeded in making a temporary raid.

It is not unlikely that for sometime in the first or the second century, the city might have passed under the Mitra dynasty ruling at Gaya. An inscription of a king named Indramitra has been found at Bodhagayā, showing that southern Bihar, possibly including Patna, may have passed for some time under this local dynasty. A few coins of the Mitra dynasty of Ayodhyā have been found in the Buxar hoard as well as in Kumrahar excavations, (p. 98) but their presence in Bihar is probably due to commerce.

Sometime during the 2nd half of the 1st century A.D. Pāṭaliputra passed under the sway of the Kushāṇas. A large number of copper Kushāṇa coins have been found all over Bihar, at Buxar, at Patna and at Vaiśālī. At Kumrahar a hoard of 43 Kushāṇa copper coins was found by Spooner in 1913. During the excavations of 1951-55, we found seven Kushāṇa coins (p. 99) and four terracottas with typical Kushāṇa peaked head dress (p. 113). The Kushāṇa rule over Patna was probably of not more than 80 or 85 years in duration, from c. 65 to 150 A.D.<sup>2</sup> Sometime in the reign of Huviṣka the Kushāṇas lost their hold over Bihar and Patna. Even after the withdrawal of the Kushāṇas, some Scythian chiefs continued to rule at Pāṭaliputra; but they had been completely Indianised.

Pāṭaliputra continued to be a centre of Jainism at this time. *Tatvārthasūtra* of Umāsvāti, which is held in esteem both by the Śvetāmbara and Digambara sects, was composed in this city towards the beginning of the Christian era.<sup>3</sup> Jainism at this time appealed to some Śaka rulers at Patna. *Bṛikatkalpavṛitti* 3, refers to a Muṛṇḍa (i.e. Scythian) king of Pāṭaliputra, who was a pious Jain and whose widowed sister had also

<sup>1</sup>R. Davids, *Questions of King Milinda*, I, p. 26.

<sup>2</sup>For the Buxar hoard, mainly of the Kushāṇa coins, see *J.N.S.I.*, XII, 121. In Vaiśālī excavations of 1959, eight Kushāṇa coins were found along with two terracottas with the typical Kushāṇa head-dress.

<sup>3</sup>न्यग्रोषिकाप्रसूतेन विहरता पुरवरे कुसुमनाम्नि। कौभीषिणिना स्वातितनयेन वात्सीसुतेनार्घ्यम्॥ तत्त्वार्थाधिगमाख्यं स्पष्टमुमा-  
स्वातिना शास्त्रम्। *Tatvārtha-sūtra*, Introduction, p. 4 (Introduction by Pandit Sukhalalji Sanghvi).

embraced the same sect. Prabhudāmā, a sister of the Śaka king Rudrasena I, was probably married in Vaiśālī.<sup>1</sup> If her husband was also a Śaka ruler, it would appear that local Śaka rulers continued to rule both in southern and northern Bihar during the 3rd century A.D. Smith had conjectured that the Lichchhvis of Vaiśālī might have paid off old scores by capturing Pāṭaliputra at about this time. But we have no evidence so far forth-coming to suggest Lichchhavi rule in Patna during the period c. 200 to 270 A.D.

With the establishment of the Gupta dynasty in c. 275 A.D., we once more begin to tread on firm ground, as far as the history of Pāṭaliputra is concerned. We can well presume that it was the capital of the dynasty right from the time of its founder Śrīgupta (c. 270 to 290 A.D.). Some scholars have identified king Vikramāditya of the popular tradition with Chandragupta II Vikramāditya of the Gupta dynasty; and since the former is represented as having his capital at Ujjayinī, it is suggested that the Guptas might have shifted their capital from Pāṭaliputra to that city in c. 425 A.D.<sup>2</sup> Others have suggested that Ayodhyā became the working Gupta capital on the strength of the discovery of several copper coins near the city. There, however, does not appear to be any good reasons to subscribe to either of the above views. Pāṭaliputra continued to be the Gupta capital right up to the end of that dynasty. At this period the city used to have splendid *ratha-yātrās* or processions of the Buddha images carried in some twenty cars through the city in the month of Vaiśākha (May), a week before the full moon day, which was thrice sacred on account of its being the birth-day, the enlightenment day and the Nirvāṇa day of the Blessed One.

Aśoka's palace still stood intact in the 5th century A.D.; Fa Hien was deeply impressed by its stone structure and beautiful carvings and could well believe the current report that it was the work of spirits in the service of the Maurya emperor. This palace, however, is not identical with the Mauryan Pillared Hall.<sup>3</sup> The structure at Kumrahar is undoubtedly a Mauryan one, but it is an Audience Hall and not a palace. Its ruins have so far shown no remnants of any sculptures.

Pāṭaliputra was a flourishing city in the Gupta period. It had a number of rich philanthropists, some of whom used to maintain hospitals, where food and medicines were supplied free to the poor and the needy. The discovery in our excavations of the monastery-cum-sanatorium at Kumrahar, belonging to the Gupta period, need not surprise us. This hospital also might have received assistance from the public, though perhaps it was intended mainly for the monastic order. Fa Hien has noted that there were two monasteries at Patna at c. 410; one was a Mahāyāna and the other a Hīnayāna. It is quite possible that one of these might have been the Ārogya-vihāra discovered by us. To judge from our finds in the excavations, the niches in the Gupta monasteries were decorated with beautiful terracotta images of seated Buddhas, flying Gandharvas, (Pl. XXXIX), *mithuna* figures (Pl. XL), etc. more or less on the same lines as the monasteries of Nālandā about two centuries later. Walls had also the decorations of beautiful carved bricks, many of which have been recovered by us in our excavations (Pl. LXXVI), alas in broken fragments. Buddhist monasteries in Patna were famous centres of learning and Fa Hien spent three years in studying the texts in their libraries; they supplied him some *Vinaya* books which he had sought in vain elsewhere in north India.

In the Gupta period, Pāṭaliputra was naturally a centre of Hindu learning. Śāba, a minister of Chandragupta II (c. 400 A.D.) who was an expert in poetics, politics and

<sup>1</sup> Two seals of hers, describing her as a Mahādevī, were found at Vaiśālī. Obviously her husband must have been a king. *A.S. I., A.R.* 1913-14, p. 136.

<sup>2</sup> Smith: *Early History of India*, 4th Ed., pp. 309-310.

<sup>3</sup> See also p. 18, note 1.

international affairs, was a Patna citizen. The famous astronomer Āryabhaṭa was the founder of a school of mathematics and astronomy in the city and composed his well-known work *Āryabhaṭīya* there in c. 399 A.D.

It appears that the greater part of Patna was in ruins at the time of the visit of Yuan Chwang to the city in c. 637 A.D.. The city, he says<sup>1</sup>, had long been a wilderness, save for a small walled town near the Ganga with about 1,000 inhabitants. Aśoka's palace, monasteries and Stūpas were all in ruins; the same was the case with Hindu temples. Only two or three old structures were surviving. The pilgrim was shown the Hell of Aśoka; to its south lay the first of 84,000 Stūpas built by Aśoka; its basement had sunk and only the dome was visible. To the south of this Stūpa was a temple containing Buddha's footprints on stone, 18" long and 6" broad, decorated with wheel and disc. Near this temple was an Aśoka pillar 30 feet high with a much damaged inscription commemorating the gift of Jambudvīpa to the Order three times and its subsequent repurchase by precious stones. To the north of the old palace (i.e. old capital?) the pilgrim was shown Mahendra cave, appearing externally like a cave and being some scores of feet wide inside. In the same region, but to the south of the Hall, was a large stone trough used to keep food intended for distribution to the monks.

To the south-west of the old capital, Yuan Chwang was shown a rocky mountain with some 10 caves for Upagupta and his companions. Near the caves was a lake of dimple water, noted for its sanctity. South-west from this small Hall were five Stūpas, whose foundations had disappeared leaving only the bases standing out high. These Stūpas enshrined the five holy remains that remained after the erection of 84,000 Stūpas by Aśoka. Some, however, believed that they were treasure stores of the Nandas.

The remains of the Kukkuṭārāma monastery built by Aśoka were shown to the pilgrim to the south-east of the old city. The famous Āmalaka Stūpa was near this monastery; to its north-west was another Stūpa called Gong-call Stūpa situated within a monastery.

Ancient Pāṭaliputra seems to have perished at least about 50 years before the visit of Yuan Chwang, i.e. in c. 575 A.D. The cause of the catastrophe was probably a terrific and unprecedented flood of the Soṇ in the month of Bhādrapada (September), which has been described in a Jain work called *Titlhogali Panniya*. We are told that the king Chaturmukha Kakli was persecuting the Jains and their preceptor advised them to leave Pāṭaliputra, and also predicted that there would be several catastrophes in the near future. A number of Jain monks took the hint and left Patna, but not all. Very soon it started raining heavily and continuously for 17 days and nights. The Ganga water rose, as also that of the Soṇ. The latter was terrific in its force and engulfed Pāṭaliputra all round. Several monks and laymen were carried off by the current of the stream. Some only were saved who could get the support of wood or boat.<sup>2</sup>

The destruction was widespread but we are told that another township was built up afterwards.

This statement of the Jain sources is confirmed by the observation of Yuan Chwang that there existed a humble township with a population of only about 1,000 at the time of his visit to Pāṭaliputra in c. 637 A.D. The excavations at Kumrahar also showed that the area was deserted from about 600 A.D. to 1600 A.D. (p. 20).

The later Guptas were ruling in Magadha from c. 550 A.D., but we do not know whether their capital was Pāṭaliputra. Such probably was not the case. The city, how-

<sup>1</sup> Watters, *On Yuan Chwang*, II, pp. 87-100.

<sup>2</sup> Dr. Motichandra in *Premi Abhinandana Grantha*, pp. 230 ff.

ever, was gradually recovering from its flood catastrophe. It continued to enjoy a unique strategical position in the riverine traffic of the lower Gangetic plain and could command the trade coming down the Son, the Ganga, the Punpun and the Gandaka. That in spite of its flood disaster it continued to prosper as a centre of river navigation is shown by the Khalimpur plate of Dharmapāla. This grant gives a vivid and glorious description of Pāṭaliputra as a river port. It says, 'From his royal camp of victory pitched at Pāṭaliputra, where the manifold fleets of boats proceeding to the north of the Bhagirathi make it seem as if a series of mountain tops had been sunk to build another causeway.' Dr. B. P. Sinha has suggested that Pāṭaliputra continued to be the capital of the early Pālas. The description of Pāṭaliputra in the same record as a place where the brightness of the day light was darkened by the packed arrays of rutting elephants, where the firmament is rendered green by the dust dug up by the hoofs of innumerable horses belonging to many kings of the north, and where the earth bent under the limitless foot-soldiers of all the kings of Jambudvīpa assembled to render homage to Dharmapāladeva, would no doubt suggest that Pāṭaliputra was the capital of Dharmapāla, since his feudatories had assembled there to pay him homage. But the copper plate expressly describes Pāṭaliputra as a *skandhāvāra* or camp, and it is well known to the student of Ancient Indian history how the feudatories could meet their overlord at any place where he might be camping during his campaigns. The Khalimpur plate would thus only show that Pāṭaliputra was recovering rapidly from its calamities and the Pālas were often encamping there during their campaigns or tours. We have so far recovered no inscriptions and sculptures of the Pāla period from Patna proper and excavations show that the Kumrahar site was not in occupation during the Pāla period.<sup>1</sup> The new town was principally inhabited by traders and transport workers interested in commerce and they must have concentrated near the Ganga, as is suggested by the account of Yuan Chwang, describing the new town as located near that river. Pāṭaliputra continued its modest existence during the 11th century; Alberuni has given its distance from Banaras. During the rule of the later Pālas and the Gāhaḍavālas, the city did not enjoy any royal patronage.

When the Muslims conquered Bihar in c. 1200 A.D., it appears that Bihar Sharif was a more prosperous city than Patna, and they, therefore, made it their capital. From about 1200 to 1540 Patna was overshadowed by Bihar Sharif.

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<sup>1</sup> The same was the case with the Mahabir-ghat site as shown by our excavations in 1956. For the evidence at Kumrahar, see pp. 16 and 20.

## CHAPTER III

### SUMMARY OF THE RESULTS OF KUMRAHAR EXCAVATIONS

**A** PART from Pancha Pahadi and Chhoti Pahadi sites, which have been seriously disturbed, promising ancient sites in Patna as a rule lie buried several feet deep and there are hardly any external indications to suggest their precise locations. A large number of these sites were found by earlier excavators in the 19th century, but during accidental or amateurish diggings. Remains of the Mauryan palisades were found, as already mentioned, in the Gandhi tank (formerly known as Mangle's tank) south of the Chowk, in Mahrajkhanda and Tulsimandi to the north-east of Kumrahar, at Kumrahar and Bulandibagh and at Lohanipur and at many other places. Ghats or flights of steps leading to the river or canal were found near Lohanipur and to the south of Bulandibagh, parallel to Kankarbagh road. Deeply buried drains were found at Rampur and Bahadurpur which are near Kumrahar and to the North of the Railway line. Pieces of polished stone pillars were found by D. B. Spooner in the house of Shri Mohammad Mazid at Kalukhan's bagh near Khazekalan.<sup>1</sup> Hoards of punch-marked coins had been found in Golakhpur and Ramna wards of the city. A beautiful stone image of a Tirthankara was found at Lohanipur showing the well-known Mauryan polish; it now adorns the Patna Museum.

Most of these discoveries were accidental and the sites of some of them, being thickly populated, could not be thought of for our excavations. We, therefore, eventually decided to start the excavation at Kumrahar, the well known site of the Mauryan Pillared Hall excavated by D. B. Spooner in 1912-14 (Fig. 2). A large portion of the plot, acquired by the Archaeological Department, measuring about 43 bighas, remained to be explored, and we could conveniently begin our work there.

#### A. AIMS AND OBJECTS OF EXCAVATIONS

D. B. Spooner's excavations had led to the important discovery of the Mauryan Pillared Hall, but a number of the problems remained unsolved. Our excavations in the Hall area and the areas in its vicinity were intended to ascertain:

- (1) Whether the Pillared Hall extended further to the west.
- (2) Whether there were any more wooden platforms on the eastern and western sides of the platforms discovered by Spooner.
- (3) Whether there existed any more pillars or their big fragments, or any portions of their capitals in the unexcavated areas.
- (4) Whether the Hall had any railing or compound wall around it.
- (5) Whether there were any structures, contemporaneous with the Hall, of the nature of palaces or administrative buildings, especially in KR III<sup>2</sup> area where Spooner had found some polished Mauryan sandstones, square in section.
- (6) Whether any alluvial deposit to the depth of about eight feet had been deposited in this area in general and the Hall area in particular.

<sup>1</sup> We also found them there in our excavations of 1956.

<sup>2</sup> KR I, KR II and so on refer to the divisions of excavation site as shown in Fig. 2.

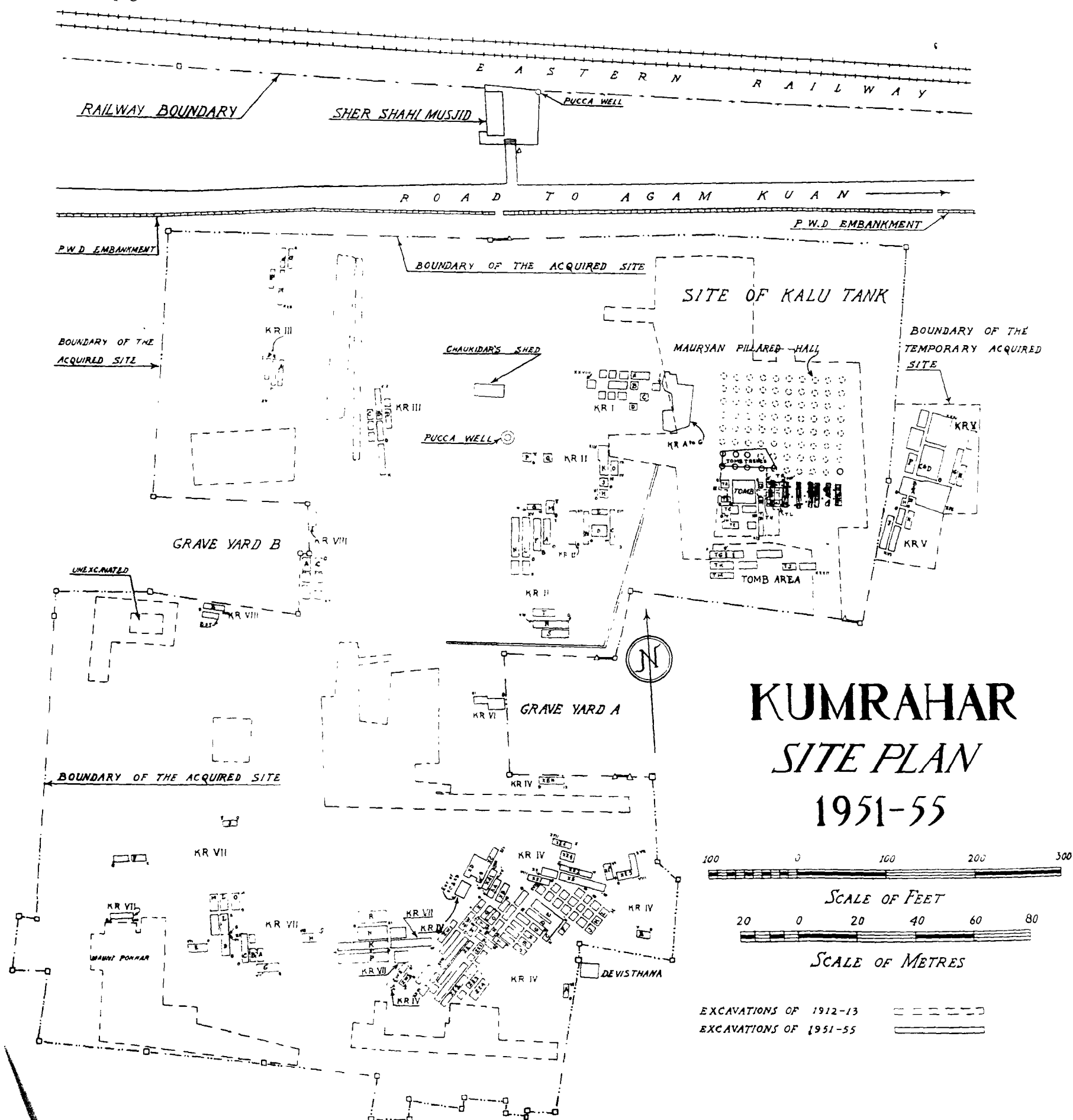


FIG. 2.



## SUMMARY OF RESULTS

- (7) Whether any definite Śuṅga and Kushāṇa structures could be distinguished in the Hall area, as they had not been noticed by Spooner.
- (8) What was the period of occupation of the Kumrahar area?
- (9) Whether Spooner's theory of the disappearance of the stumps of the Mauryan pillars by their sinking below to a very great depth could be supported.
- (10) What was the nature and cause of the ashy tubes noticed by Spooner?
- (11) Whether the Hall had any wooden floor and if so, what was its level?
- (12) What was the height of the pillars and how they were fixed in their position in the hall?
- (13) How and when was the Hall destroyed?
- (14) Whether there were any additional structures in the unexcavated part of the Kumrahar area, and if so, what was their nature?

### B. SUMMARY OF RESULTS

Our excavations during the five seasons (1951-1955) showed that:—

- (1) The Pillared Hall did not extend further west, as we did not come across any stumps of pillars embedded in ashy layers in our excavations to the west of the excavated portion of the Hall nor in KR I, lying further west (pp. 33-5).
- (2) The wooden platforms did not extend further east, as we did not find their traces in KR V due east of the platforms. The westernmost platform (No. 7) of Spooner had been only tapped by him at two ends; our excavations fully exposed it and showed that it had been flanked by five uprights; see pp. 32-33.
- (3) Spooner had located the sites of only 72 monolithic pillars; our excavations led to the discovery of the sites of eight more pillars belonging to the Hall proper and four pillars probably at the entrance. In our extensive excavations in KR I, KR II, KR III, KR IV, KR V, KR VI, KR VII and KR VIII we came across no further Mauryan pillars or their big fragments. We, however, found small chips and fragments of the Mauryan pillars even in Śuṅga and Kushāṇa layers, *c.* 150 B.C. to 200 A.D., in most of the sites (see for instance Pl. XII.); Spooner also had found them in his excavations.
- (4) We did not come across any boundary walls or railings for the Hall in KR I, KR II and KR V, where we naturally expected to find them.<sup>1</sup>
- (5) To our great regret and surprise we did not find the remains of any Mauryan structures anywhere in the extensive areas excavated in KR I to KR VIII. Nor did we come across any administrative buildings either of the Mauryan or of later periods. We, however, found some poor and flimsy brick structures in KR IV and KR VII belonging to the pre-Śuṅga period. As no datable antiquities were found associated with them, it is not possible to determine their date more precisely. Instead of finding administrative buildings we came across a number of monastic structures in KR I, KR II, KR IV, KR VII and KR VIII covering a period of about 750 years, from *c.* 150 B.C. to *c.* 600 A.D.<sup>2</sup> Spooner also had discovered the ruins of a monastery in KR III and KR VII.

<sup>1</sup> We found some fragments of sandstone cross-bars of balustrades belonging to *c.* 150 B.C. to 100 A.D. from different sites. They formed no part of the Mauryan Hall and bear no Mauryan polish. They may be associated with some of the Buddhist structures that sprung up in this locality in the post-Mauryan period.

<sup>2</sup> See Pls. XVIII to XXII.



Administrative buildings might have existed in Kumrahar, whose extensive site extends much beyond the village of that name. These still remain to be located. We agree with Spooner in observing that 'we have not yet reached the proper part of the site.'

- (6) Our careful scraping to the west of the Hall showed that there was no alluvial deposit of any depth whatsoever there (p. 34). What was taken by Spooner as alluvial deposit was partly the raised plinth, 4' 6" in height, and the virgin soil below it. If, following the views of Spooner, we are to hold that there was an alluvial deposit in the Hall, it should be found all over the Kumrahar site. We did not, however, come across its traces anywhere.
- (7) Śuṅga and Kushāṇa structures could be traced in the Hall area below the Gupta structures and over the ashy layer in the area we excavated to the south and west of the tomb; see below, pp. 28-32.
- (8) The entire area except KR VII and KR VIII was in continuous occupation from the Mauryan period to about 600 A.D. It was then deserted to be occupied again in the 18th century.
- (9) Our excavations in the Tomb area revealed four more ashy tubes or pits like those discovered by Spooner (Fig. 5). The top of the layer 11, the earliest occupational layer, was the walking surface of the Mauryan period. When the hall was built, foundation trenches for pillars were laid varying in depth from 5' to 6' 4" below this level. These trenches were probably 5' square. Their bottom was covered by a cement like blue clay<sup>1</sup> about 6" in thickness. This blue clay most probably served the same purpose as the present concrete foundation. Over it there was a wooden basement usually 4' 6" square consisting of four beams running east to west, which were further strengthened by wedging them together at right angle (Pl. VIII). This wooden structure served the purpose of distributing the weight of the pillar standing above them. The presence of this wooden base<sup>2</sup> at several places in Spooner's excavation and the fact that the foundation of blue clay remained quite undisturbed in all the four ashy tubes or ash pits that were discovered by us would show that the pillars did not sink deep penetrating through their foundations.
- (10) As to the cause of the ashy tubes, they were certainly not due to pillars having descended through them to very great depths, as suggested by Spooner. The pillars were very smoothly polished and had they descended below through them, the resulting pits would have been more or less regular in section and round in plan. Such, however, was not the case with any of the ashy tubes discovered by us. They are irregular both in plan and section and suggest that they were rather due to the disturbance caused by the stone robbers of a later age, who removed the pillar stumps from below the ground. Later on ashes, brickbats and stone fragments on the surface gradually choked up the pits.

<sup>1</sup>The Archaeological Chemist in India has examined this clay. He writes: "It appears to be an ordinary clay of normal composition and its bluish tint is probably due to its content of organic matter, which has remained unoxidized on account of prolonged burial over centuries." Above this structure was a soled wooden base, on which the stone pillar stood; the layer of blue clay below the wooden scaffoldings of pillars was very thick and compact; hence it is described as cement-like.

<sup>2</sup>Spooner described these bases as scaffolds and had mistaken them for the wooden floor of the Hall.

## SUMMARY OF RESULTS

- (11) In the limited area available to us for excavation, we did not come across any traces of a wooden flooring in the Hall. At a depth of about 8' the whole area, however, was covered with a thick layer of ashes about one foot in thickness, suggesting that huge quantities of wood, belonging to the flooring or ceiling or both, must have been burnt in the conflagration. A few small wooden pieces along with charcoal were found in the ashy layer; they may well have belonged to the wooden floor of the Hall, unless we suppose that they had fallen down from the wooden ceiling. Our excavations have disclosed further evidence to determine the level of the floor of the Mauryan Hall. As may be expected, the extensive ashy layer covering the entire Hall area approximately represented the floor of the Mauryan Hall. The depth of this level varies from about 9' to 10' below the present ground level of KR I.
- (12) Spooner had estimated the height of the pillars to be about 20'. This is not correct.<sup>1</sup> The circumference of the base of the pillar is 7.91', that at 5' above the base is 7.62' and that at the top about 6'. If we assume, as is but natural, that the tapering was uniform, the above data will show that the height of the pillar should be about 32.5' rather than 20'.

We shall now explain how these pillars were fixed in their proper position in the Hall. As already described, there was a foundation of blue clay 6" in thickness at the bottom. Wooden basements<sup>2</sup> about 4' 6" square were put on this blue clay and above them were fixed the monolithic pillars about 32.5' in height. These wooden basements were about 4 ft. 6 in. below the top of the layer 11, which was the walking surface of the Mauryan period. Above the layer 11 there was the plinth of the Hall, about 3 ft. 6 in. in height, corresponding to layers 10, 9, 8, consisting mostly of earth filling.<sup>3</sup> It thus appears that a shaft of the pillars, about 9 feet in length, was below the plinth.<sup>4</sup> The notches on the pillars were thus under ground and probably supported four projections, which perhaps served the purpose of fixing them more firmly.

This theory based upon carefully noted layers and stratification cannot, however, explain why the lower part of the pillars, which was under the ground and so completely invisible, should have been as nicely polished as the upper portion, which was visible.

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<sup>1</sup> We have calculated the exact diameters of two extant pillar tops (Pl. V) and they are found to be 23.3 in. and 22.6 in. respectively. The diameter of the base of the biggest fragment of the pillar which had been found by Spooner, is 30 inches (Pl. V, 4). So the circumference at the base should be  $\frac{30}{12} \times \frac{22}{7} = 7.85$  ft. But in actual measurement the circumference of the base is 7.91 ft.; so there is a difference of .06 ft. Actual circumference at 5 ft. above the base is 7.62 ft. So there is a difference of .29 foot in the circumference between base and the point 5 feet above. The average diameter of two tops is 1.91 ft. So the circumference will be  $1.91 \text{ ft.} \times \frac{22}{7} = \frac{42.02}{7} = 6.62$  ft. There is a difference of 1.89 ft. between the circumference of the base and the top. We have shown above how a difference of .29 ft. in circumference is caused by a length of 5 ft. The difference of 1.89 ft. in the circumference at the bottom and the top will be due to a length of 32.66 feet ( $5 \times \frac{1.00}{.29} = 17.24$ )  $\times 1.89 = 32.66$  feet, which will be the length of the pillar.

<sup>2</sup> See p. 16 for the precise description of the basements; see also Pl. VIII.

<sup>3</sup> These filling layers contained only a few traces of human habitation, viz. iron nails, potsherds, etc. The so-called alluvial deposit of Spooner consisted of layer 11 and the virgin soil below.

<sup>4</sup> The length of the pillar below the walking surface as also the height of the plinth vary from 4' to 5'. The length of the shaft of the pillar under the floor of the hall would thus be about 9'.

- (13) The view so far subscribed that the Hall was burnt in the post-Gupta period, seems no longer tenable.<sup>1</sup> In the very limited area available for excavations above the Hall we got clear traces of structures of the Śuṅga period above the ashy layer, associated with coins of the Lankey Bull type of Kauśāmbī and typical pottery of the Śuṅga period. It is, therefore, clear that the Hall was destroyed by fire early in the Śuṅga period and not in the post-Gupta one (pp. 22-3).

This conclusion gets further support by the discovery of the chips of Mauryan polished pillars in the early Śuṅga stratum in all the sites we excavated. The Hall was first burnt and then those portions of the pillars which were above the floor level were broken into fragments. At a later stage the stumps of pillars below the floor were also removed, causing the formation of the so-called tubes, which were later filled by ashes, brickbats, stone fragments, etc.

- (14) We discovered a large number of structures in unexcavated part of the Kumrahar area, but none of them was administrative in nature, as we had anticipated. Instead, we came across buildings which were mostly monastic and were used by Buddhists. After the destruction of the Hall, the site was no longer used for the official purposes and came to be occupied by Buddhists, who utilized it for building their monasteries (pp. 41-2).

### C. CHRONOLOGY

To determine the chronology of the site, evidence from all cuttings viz. KR I, II, III, IV, V, VI, VII and VIII has been pieced together. Several datable objects like N.B.P. Ware, coins and terracottas were found in the different sites. We have postulated the periods mentioned below after carefully checking and coordinating the data of the different layers in different sites. The following types of finds provided the main evidence for determining the chronology:

#### (a) POTTERY:

1. Grey ware, coarse fabric.
2. N.B.P. Ware.

#### (b) COINS:

1. Punch-marked and cast coins.
2. Lankey Bull type of Kauśāmbī coins.
3. Kushāṇa coins.
4. Gupta copper coins.

#### (c) TERRACOTTAS :

1. Śuṅga terracottas.
2. Kushāṇa terracottas.
3. Gupta terracottas.

<sup>1</sup>The view usually held that the Mauryan Palace in Pāṭaliputra seen by Fa Hian may be the present Pillared Hall is untenable. What Fa Hian saw was 'a palace with various halls.....with carved designs, engraved and inlaid ;' what we have at Kumrahar is not a palace with various halls, but only one Hall, and so far we have got no evidence of carved designs engraved and inlaid, associated with this Hall. So one may doubt whether this Hall was what Fa Hian had seen in Pāṭaliputra. Our excavations show that it had been destroyed much earlier.

## SUMMARY OF RESULTS: CHRONOLOGY

### (d) SEALINGS:

1. Śuṅga and Kushāṇa sealings.
2. Gupta and post-Gupta sealings.

### (e) INSCRIBED SHERDS:

1. Pre-Kushāṇa inscribed sherds.
2. Gupta inscribed sherds.

### (f) MUSLIM GLAZED POTTERY AND COINS.

On the basis of these type-finds, we divided the chronology of the site as follows:—

Period I : Before *c.* 150 B.C.

Period II : *c.* 150 B.C. to 100 A.D.

Period III : *c.* 100 to 300 A.D.

Period IV : *c.* 300 to 450 A.D.

Period V : *c.* 450 to 600 A.D.

Period VI : *c.* 17th century.

Thus it appears that this part of the site of Kumrahar was not in occupation after *c.* 600 A.D. till we come to Shah Jahan's reign.<sup>1</sup> In the earlier period KR VII and KR VIII were deserted after the Kushāṇa period, while the rest continued to be in occupation till *c.* 600 A.D.

We shall discuss now the above evidence periodwise:—

*Period I, before c. 150 B.C.*

The most characteristic feature of this period is the grey ware of coarse fabric, usually mixed with red ware. The main type met with in the grey ware is the bowl with incurved rim. Few sherds of the N.B.P. Wares have also been found from these layers, as in layer 10 in KR IV and in the sixth and earlier layers in KR IV Z. Cast and punch-marked coins were found from layers 7 and 8 of KR IV Z and layer 5 of KR I. Their occurrence here would support the view that this period is before *c.* 150 B.C.

*Period II, c. 150 B.C. to 100 A.D.*

In KR IV K, we found Śuṅga terracottas and two coins of Lankey Bull type of Kauśāmbī from layers 8 and 9. It is, therefore, clear that the structures associated with these layers should be dated during *c.* 150 B.C. to 100 A.D. A few copper punch-marked and cast coins were also found in layers 8 and 7; it is, however, well known that these types of coins continued to be current during the early centuries of the Christian era. We found stone chips of pillars from layer 10 which dates after the destruction of the Mauryan Pillared Hall. (Fig. 15)

In KR II also we found Śuṅga terracottas, punch-marked coins and Lankey Bull type of Kauśāmbī coins in layers 10, 9, 8, and 7 and so these layers have been also dated as belonging to this period. (Fig. 9)

In KR IIIB we found an inscribed sherd from layer 6. The palaeography of its Brāhmī letters *na* and *śa* indicates that it belongs to about the beginning of the Christian era. It is interesting to note that some sherds of the N.B.P. Ware, red ware and grey ware

<sup>1</sup>The same was the case with the site at Mahabirghat in Patna city, as was shown by its excavation in 1956.

from these layers have been stamped with symbols like Crescented Hill and Hollow Cross, which are common on cast and punch-marked coins. This circumstance also supports our conclusion that these layers should be dated between *c.* 150 B.C. to 100 A.D. The Śuṅga terracottas, which have been found from our excavations, are similar to those which have been found from other places such as Kauśāmbī, Mathurā, Ahichchhatrā, etc., as far as their coiffure is concerned. At those places they have also been assigned to this period.<sup>1</sup>

*Period III, c. 100 to 300 A.D.*

In KR IV K we found that the structures belonging to this period rest on layer 6b. A few Kushāṇa coins and Kushāṇa terracottas with the characteristic of peaked head-dresses have been found from layers 6 and 5a respectively. Kushāṇa copper coins and terracottas were found in KR IV Z from layer 3 and in KR II N from layer 4, confirming the above dating. From layer 4 in KR II a sealing was also discovered with the legend *saghasa*, whose palæography indicates that it belongs to this period.

It is interesting to note that after this period, we do not get the grey ware and the N.B.P. Ware anywhere in any of our sites.

*Period IV, c. 300 to 450 A.D.*

Period IV is represented by layers 3, 4 and 5 in KR IV, by layers 1 and 2 in KR IV Z, by layers 3, 3a, 4, 4a and 4b in KR V (Fig 16), by layers 2, 3, 4 and 4a in KR III B and by layers 2 and 3 in KR I. In these layers we found copper coins of Chandragupta II, terracotta sealings in Gupta characters and typical Gupta terracottas in fairly large quantities, making it quite clear that these layers have to be dated between *c.* 300 to 450 A.D. It is interesting to note that in layer 2 of KR IV Z we found a copper punch-marked coin also along with some Gupta coins; this shows that the former perhaps continued to be in vogue to some extent even in earlier part of the 4th century A.D.

*Period V, c. 450 to 600 A.D.*

This period is represented in KR I, KR III B, KR IV, KR IV Z and KR V. More or less it is a continuation of Period IV, but the pottery here is red ware of coarse fabric. In other sites, Gupta antiquities were absent, but pottery of similar type prevailed.

In KR IV and V, we get some structures of this period. The duration of this period is very probably *c.* 450 to 600 A.D., as suggested by the palæography of the sealings and inscribed potsherds.

*Period VI, c. 17th century A.D.*

In most of the sites of Kumrahar excavated by us, we did not get any signs of habitation from the 7th century A.D. to about the 16th century, the 17th century being represented by Muslim glazed pottery and Mughal coins. This would confirm the observation of Yuan Chwang, who has noted how almost the entire area of Pāṭaliputra was in complete ruin at the time of his visit, *c.* 637 A.D. At least such was the case with the Kumrahar areas excavated by us and Dr. Spooner.

#### D. METHOD OF DIGGING AND RECORDING

We followed the usual modern scientific method of digging and recording. We divided the whole area into nine different sites, viz. KR I, KR II, KR III, KR IV,

<sup>1</sup> *Ancient India*, No. 4, pp. 109 ff; *Journal of U.P. Historical Society*, IX, pp. 1 ff.

*SUMMARY OF RESULTS: METHOD OF DIGGING AND RECORDING*

KR V, KR VI, KR VII, KR VIII Tomb Trench and Tomb Area.<sup>1</sup> KR is the abbreviation for Kumrahar. We used to remove each layer of soil and then proceed to dig the next layer. For testing the underlying layers, a small trial pit was first dug in a corner of the trenches. For recording the exact location of an object, we divided the trenches into A, B, C, D and so on and put pegs at a distance of three feet from each other on both the sides of the trench (Pl. I). We used the dash mark on the left hand pegs. We generally used Roman numbers in numbering the pegs. They were at a distance of 1.5 ft. from the side of the trench. Thus it was easy to locate all objects by recording their vertical depths and the distances from the nearest pegs. Our finds have been so recorded in the field register.

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<sup>1</sup> The area in the vicinity of the tomb structure to the south of the Pillared Hall is called here as Tomb Area and the area towards the north of the tomb and within the pillared hall is called as Tomb Trench.

## CHAPTER IV

### EXCAVATIONS AND STRATIGRAPHY

#### A. MAURYAN PILLARED HALL AREA

**E**XCAVATIONS were carried in the Tomb Trench and the Tomb Area in 1951 and 1955 with the object of determining the exact extent of the Hall towards its south and with a view to ascertain the time of its destruction; we also wanted to understand its construction and the nature of the wooden platforms exposed by Spooner.

##### 1. EXTENT OF THE HALL

The plan of the Pillared Hall, as published by Spooner, (Fig. 2, facing p. 14) has eight rows from the north to the south; there are only 7 pillars in the seventh and 5 pillars in the eighth rows, suggesting that there might have been more pillars in them. This anticipation was shown to be correct; the evidence of the plan and of the ashy tubes and the pillar fragments found in the Trench to the north of the Tomb showed that there were 3 more pillars in the seventh row and 5 more in the eighth row. So these two rows also had ten pillars like the rest; see p. 27.

We, however, came across no ashy layer or ashy tubes or big pillar fragments in trenches TA and TB, dug further south of the eighth row and west of the Tomb. It was, therefore, clear that there was no row of the pillars of the Hall to the south of the eighth row.

In our trenches, TF and TL due south of the eighth row and west of the wooden platforms of Spooner, we found five long wooden planks supporting two wooden bases above; one of the latter is shown in Pl. VII. In their vicinity in the trench TD we found at a depth of about 10 ft. what appeared to be the bases of capitals of stone pillars (Pl. XI). This discovery renders it probable that the Hall was entered from the south and had probably a porch of four pillars at its entrance.

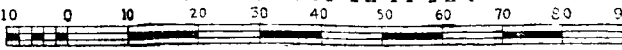
##### 2. TIME OF THE DESTRUCTION OF THE HALL

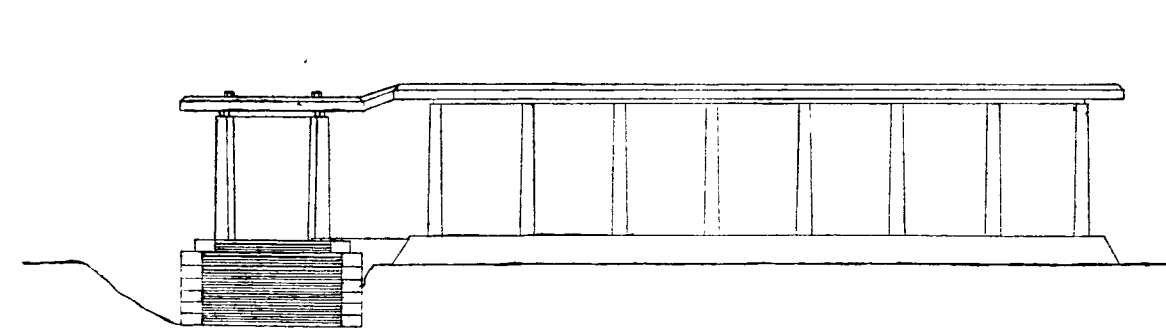
The time of the destruction of the Hall is to a great extent determined by the time of the structures built above it. These structures are shown by Spooner in his plan on Pl. XLIII of the *A.S.I., A.R.*, 1912-1913, which has been reproduced by us in Pl. X. He took them all to be of the Gupta period; Marshall was inclined to hold that they were of the 7th or the 8th century A.D. The destruction of the Hall was, therefore ultimately placed in the post-Gupta period, sometime before the arrival of Yuan Chwang in 635 A.D.

The plan of the so-called Gupta period structures (Pl. X), however, made it clear to us that they were not of one period. In several places the walls of a later period were seen overlapping the walls of an earlier period. They, therefore, belonged at least to two different periods.

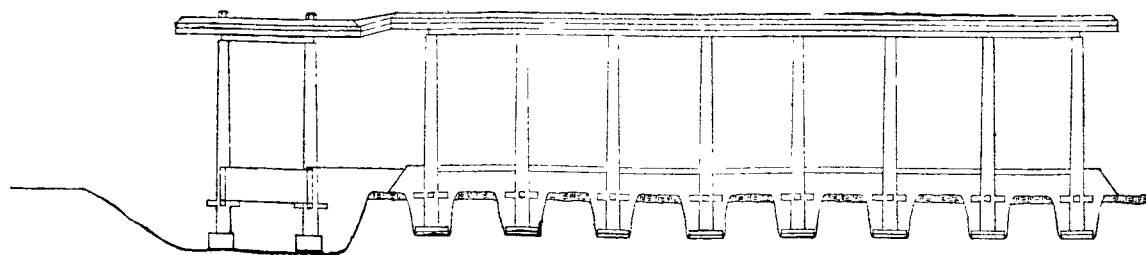
Unfortunately, we had very little space left for excavations in any area directly above the Hall. Our Tomb Trench, described below at pp. 26-8 was the only area that

# CONJECTURAL RESTORATION OF THE MAURYAN PILLARED HALL KUMRAHAR

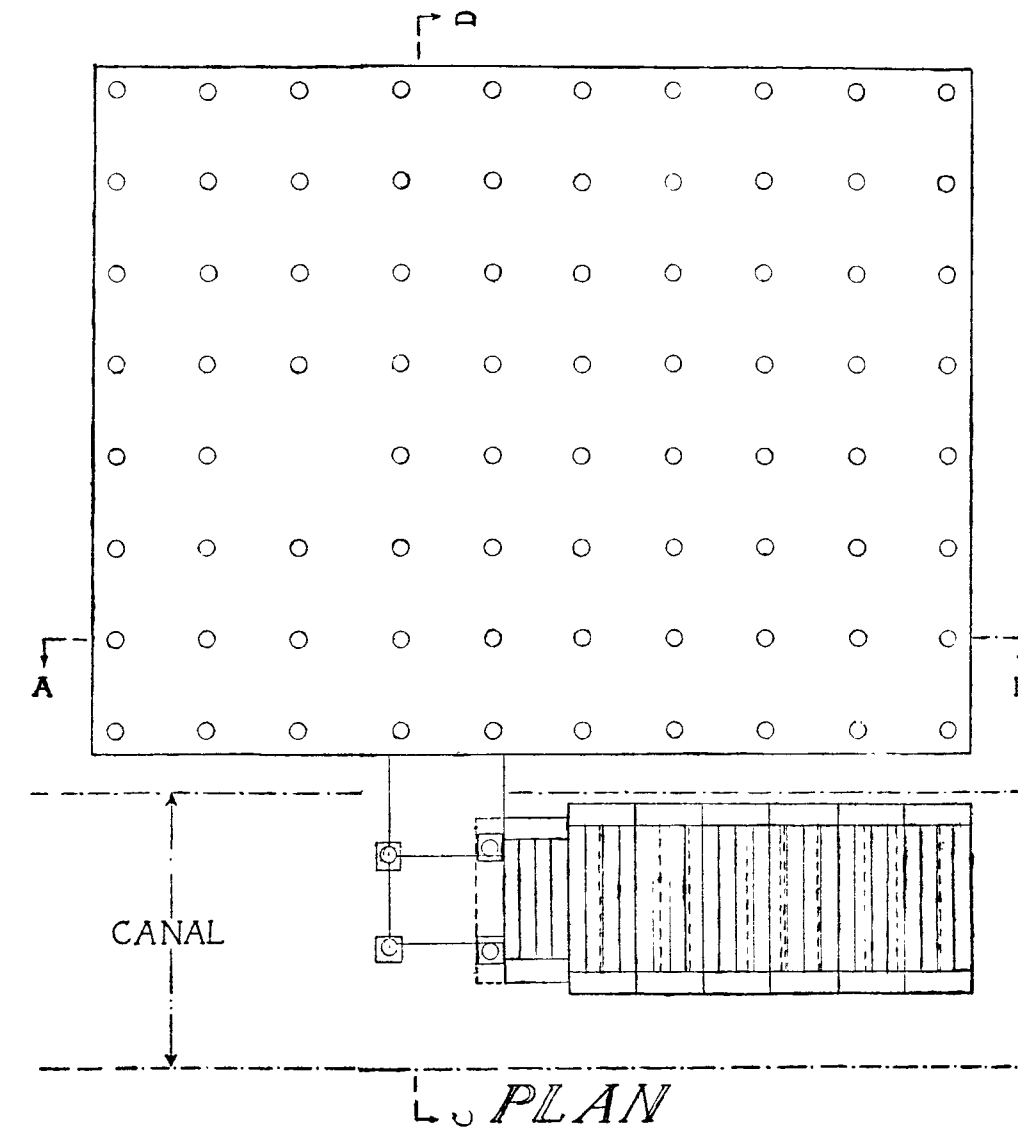
SCALE OF  FEET



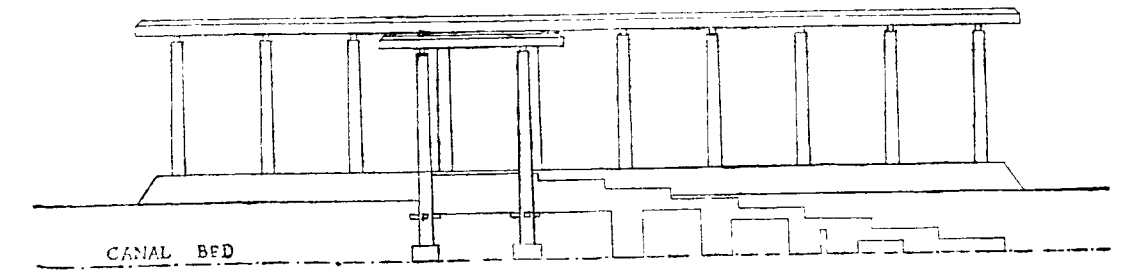
ELEVATION FROM EAST



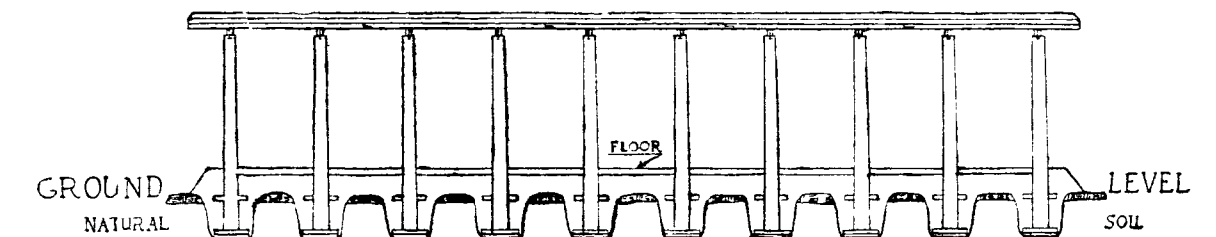
SECTION ON CD



PLAN



ELEVATION FROM SOUTH



SECTION ON AB

Drawn & Restored  
by  
S.K. Kaveraj, Patna (India).

FIG. 3.





## DESTRUCTION OF THE HALL

satisfied this description. Here apart from the Muslim structures, our excavations showed structures of three different periods, Mauryan, Śuṅga and Gupta. Unfortunately owing to the presence of the tomb, we could not extend our excavations further south in order to ascertain the plan of these structures of the three different periods.

To the west of the tomb and immediately to the south of the eighth row of pillars, we had, however, some area where excavations could be carried out. These excavations made it clear that besides the Muslim period walls, there were structures of three different periods in this area.

Structures of Period IV (*c.* 300 to 450 A.D.) were traced in trenches TG and TK. They were associated with a sealing with Gupta period inscription found in trench TG, and pottery and terracottas of the Gupta period found in trenches TA, TG, TK and TB. The structures of the Period IV were above layer 3, about 2 ft. below the present ground level in this area. A wall of Period IV was seen cutting through a structure of Period II (Pl. IX).

In trenches TG and TK, the structures of the period III were seen overlapping those of the period II belonging to the Śuṅga period (Pl. IX). The former were associated with the pottery of the Kushāṇa period. It is, therefore, clear that these structures belonged to Period III i.e. *c.* 100 to 300 A.D.

The excavations in trenches TG, TK and TM enabled us to ascertain the lay-out of the buildings of Period II, which consisted of a set of two rooms with a verandah in their front (Pl. IX; pp. 30-1). There are similar blocks in KR IV, belonging to Period II, as will be shown on p. 43. Buildings of Period III were resting on a layer of black compact clay, which seals the structures of Period II.

Period II structures were usually resting on the ashy layer, but they were sometimes separated from it by a thin layer of yellowish loose ashy earth. The antiquities associated with them were (1) a Lankey Bull type of Kauśāmbī coin, (2) punch-marked and cast coins and (3) typical pottery ascribed to the Śuṅga period. It is, therefore, clear that the time of these structures is *c.* 150 B.C. to 100 A.D.

In support of his view of the destruction of the Hall in the post-Gupta period, Spooner refers to the discovery of the copper coins of Chandragupta II in the ashy layer (*A.S.I., A.R.*, 1912-13, pp. 84-6). The loci of these coins as given on pp. 85-86 of the above Report, however, show that two of these coins were found at a depth of 2 ft. and 3 ft. only; only one coin was obtained at the depth of 10 ft. 6 in. Obviously the latter must have been in a pit of a later period. We ourselves found only punch-marked, cast and Lankey Bull coins in the ashy layer.

We could now correlate the walls in the Tomb Trench with the datable walls in the Tomb Area. The wall of three courses found in the Tomb Trench, 12 ft. west of the centre of the tomb, was resting on layer 2 and so it has to be assigned to Period IV. The wall of 15 courses found about 17 ft. west of the centre of the tomb was clearly a wall of the Period II, as it was resting on the ashy layer.

Our excavations in the Tomb Area thus made it clear that after the Hall was burnt down and destroyed, structures were built over it during each of the three successive periods—Period II (*c.* 150 B.C. to 100 A.D.), Period III (*c.* 100 to 300 A.D.) and Period IV (*c.* 300 to 450 A.D.). The Hall was destroyed before the structures of Period II were built sometime during *c.* 150 B.C. and 100 A.D. It is possible to suggest that the destruction of the Hall was a consequence of the Greek invasion in the reign of Pushyamitra Śuṅga.

This conclusion is supported by the discovery of the chips of the Mauryan polished sandstones all over the Kumrahar area in layers belonging to Period II; see for

instance Pl. XII. The structures of Periods IV, III, and II discovered in Kumrahar within a throne stone of the Pillared Hall are all monastic. It would appear that when the Hall was destroyed, the area ceased to be used for administrative purposes; it was allowed to be appropriated by Buddhist monks for building their monasteries.

### 3. CONSTRUCTION OF THE HALL

FIG. 4)

The excavations in the Tomb Trench threw valuable light on some problems connected with the construction of the Hall.

#### *Blue compact clay*

In the Tomb Trench, we found structures of Period II resting usually on a layer of yellowish soil above the ashy layer 7, or on the ashy layer itself. This ashy layer was at a depth varying from 4 ft. 6 in. to 7 ft. from the surface. The ashy tubes that we found in them cut across layers 8, 9, 10 and 11 and went 5' deeper in natural soil. Below the bottom of these pits, there was a layer of dark blue compact clay, six inches thick, most probably used as the lowest foundation for the pillar. We found this blue clay layer only under the ashy tubes and not in the area in between them. It is clear that the layer of this dark blue clay did not extend all over the area at least in the Tomb Trench excavated by us. Whether it extended over the entire Hall area, as noted by Spooner, it is difficult to say.

Section looking south of the Tomb trench (Fig. 4) shows that when the top of the layer, (9 ft. 6 in. to 11 ft. 6 in. below present level near the tomb) was the walking surface, the foundation trenches for the pillars of the Mauryan Hall were excavated down to a depth of about 5' below layer 11. It is, therefore, clear that the top of the layer 11 was the walking surface of the Mauryan age.

Layers 10, 9 and 8 represent a filling in the Hall to raise its plinth by about 3 ft. 6 in. Layers 9 and 10 were of compact earth and layer 8 of sandy greenish earth mixed with brickbats. In these layers we could occasionally come across iron nails and pot sherds.

The foundation trenches of the pillars, 5 ft. square, went right upto a depth of about 5 ft. from the ground level of the Mauryan period. The foundation was covered with a layer of dark blue clay, 6 in. in thickness. Spooner's report shows that he discovered wooden bases to distribute the weights of pillars in about five places. In the case of the vast majority of the pillars he could discover no such wooden structure; nor could we trace it in our Tomb trench where we went down to the bottom of 4 pillars. We, however, found supports of wooden bases in the case of four pillars, conjectured to be porch pillars, in trenches TF, TN and TD. Can it be that these bases were used for every pillar, but have been preserved to the twentieth century only in a few cases? No definite answer can be given in this connection.

#### *Height of the pillars*

If we utilize the evidence of the acceleration of the tapering of the Mauryan pillars, as supplied by the extant pillar discovered by Spooner, we find that its height must have been about 32 ft. (see *ante* p. 17.). Out of this total height, about 9 ft. were partly under the plinth and partly below the Mauryan walking level. This is rather an unexpected conclusion, but it is forced upon us by the stratigraphical evidence. In the Jandial temple at Taxila,<sup>1</sup> the round massive stone pillars were standing all above the plinth on a basement. The big pillars in the Temple No. 40 at Sanchi were resting on a plinth of an

<sup>1</sup> Marshal: *Taxila*, Vol. I, pp. 222 ff.

# KR TOMB TRENCH

## SECTION LOOKING SOUTH

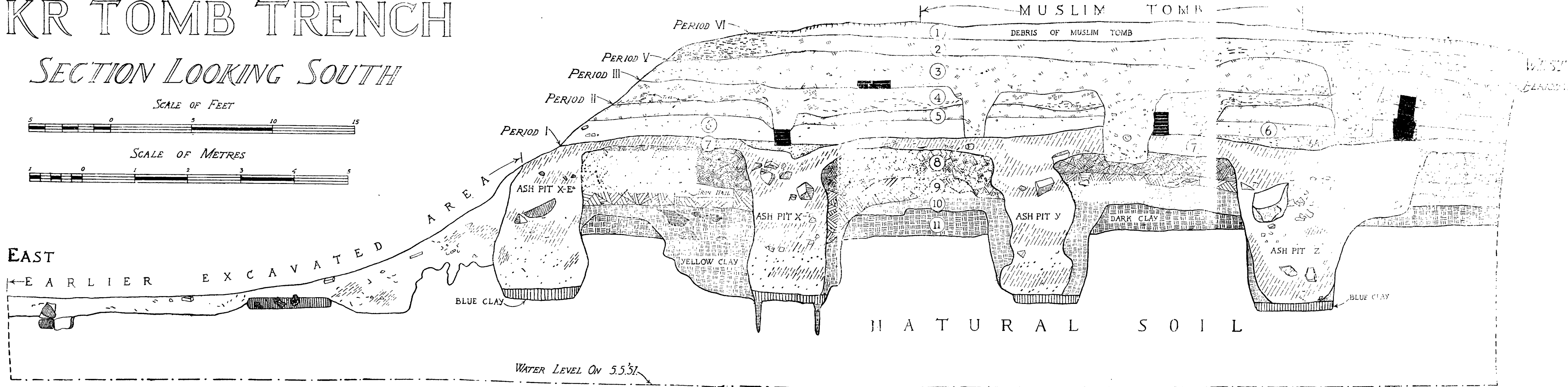


FIG. 1.



## CONSTRUCTION OF THE HALL

earlier period, only 1 ft. 6 in. below the present plinth. Why then the pillars of the Mauryan Hall should be about 9' underground? If this was the plan, why was the portion of the pillar intended to be underground polished?

It is difficult to give satisfactory answers to these questions in the present state of our knowledge. The evidence, so far available, shows that the Pillared Hall was probably the earliest huge stone-pillared structure to be built by Indian architects, who had not yet sufficient experience of such buildings. Asokan monolithic pillars were underground to the depth of 6 ft. to 7 ft.; it was probably felt that since the pillars in the Hall had to support the superstructure of the roof, they should have a deeper foundation. The polishing of the portion to be underground was probably due to inadvertence, or it may be that when the pillars were being prepared and polished, the final planning of the structure of the Hall had not been made.

### *Embosses*

The pillar discovered by Spooner has four rough embosses about 6 in. in height at a distance of 4 ft. 6 in. from its base. Two of these are visible in Pl. VI; they were thus underground. It would appear that these embosses served the purpose of braces to secure the pillars more firmly in their position.

### *Wooden Platforms*

The mystery of the huge wooden platforms discovered by Spooner to the south-east of the Hall is still unsolved. Our excavations in KR V showed that the platforms did not extend further eastwards; they terminated with the Hall in that direction. Our excavations in the Tomb Area also showed that they did not extend further westwards. They indicated that to the west of the platforms there were wooden bases of pillars of the usual type, and not regular platforms.

### *Canal*

The excavations in trenches TA, TB, TC, TD and TE immediately behind the Tomb showed that there was a canal here, 43 ft. broad and 10 ft. deep; see Fig. 5. It was dug when the top of layer 11 was the walking level, i.e. in the Mauryan period. This canal was extending right up to KR II in the west and to KR V in the east. The platforms were under the water of this canal in the Mauryan period, when the Hall was being used.

It is not unlikely that this canal to the south of the Hall was first connected with a branch of the Son, flowing about two furlongs to the south-east of the Hall and ultimately to the Ganga, into which the Son was emptying itself near Patna in the Mauryan age. It probably enabled the Mauryan engineers to waft the huge monolithic pillars direct to the door of the Hall from the Chunar quarries, where they were being probably prepared.

### *Purpose of the Wooden Platforms*

It is possible to make a new conjecture about the purpose of the wooden platforms. They probably supported a broad wooden staircase of about 30 steps, each step being 24 ft. in length and 6 in. in height. This staircase was used by distinguished visitors, coming to the Hall by boat. We have given a conjectural restoration of the staircase in Fig. 3.

After the destruction of the Hall, the canal was filled up by dark black compact clay, coarse sand and loose soil. We found a number of polished and unpolished fragments of sandstone from this canal from different levels, showing that the canal was filled up after the pillars of the Hall had been destroyed and fragmented. The eastern section of trenches TA, TB, TC and TE shows that the layer 9 sealed the canal (Fig. 5); it was above this layer that structures of Period II were built.

and unpolished with a hole in the centre where wooden or metal bolt was put to join the pillar to the beam above.

### *Destruction of the Hall*

In the ashy layer 7 unearthed by us we found cast coins and one Lankey Bull type of Kauśāmbī coin. Several pieces of typical pottery ascribed to the Śuṅga period were also found. It is, therefore, clear that the structures just above the ashy layer were of the Period II (c. 150 B.C. to 100 A.D.). The destruction of the Mauryan Pillared Hall, therefore, has to be placed sometimes between 150 B.C. to 100 A.D.

We found plaster of lime and brickbats from the so-called ashy tubes and the ashy layer 7. It showed that either the wooden roof or the wooden floor might have been plastered with brick and lime. As already stated above, we found an ashy deposit of about 1 ft. running horizontally throughout the Hall area. Huge quantities of wood must obviously have been used in the construction of the Hall; otherwise, we would not have found so thick a layer of ash and charcoal. The Hall was first burnt down and then the stumps of stone pillars left in it were broken.<sup>1</sup> The second stage was the removal of the stumps of the pillars and filling up the pillar sockets with ash, brickbats, charcoal, etc. The extensively scattered fragments of polished stone chips together with unpolished ones in layers ascribed to the Śuṅga period throughout the Kumrahar area indicated a violent destruction brought about probably by the Yavana invasion which is referred to in the *Gārgī Samhitā*. It is, therefore, clear from the area which we had excavated near about the tomb that five building periods viz. Śuṅga, Kushāṇa, Gupta, post-Gupta and Muslim were represented here. Spooner's plan of Gupta structures (Pl. X) also showed that they were over-lapping one another, which proved that they were of more than one period. In his report Spooner had described all the structures above the Hall as of the Gupta period; our finds, however, show that this was hardly correct. The earliest structures built above the Hall and its vicinity belonged (as shown above) to c. 100 B.C. to 100 A.D. or the late Śuṅga period. The Hall was thus probably destroyed sometimes during the Yavana invasion of Pāṭaliputra.

### C. TOMB AREA (FIGS. 5 AND 6)

With a view to further clarify the problems connected with the Mauryan Pillared Hall, we decided to lay 13 trenches of various measurements to its south in the vicinity of the tomb. One long trench was excavated to the east of the tomb, three trenches were dug to the west, and nine trenches to the south. No trenches were possible to its north, as the entire area had been already excavated by Spooner in 1912-13 and by us in 1951.

#### TRENCH TA

In this trench we found no ashy layer. It is, therefore, clear that the ashy layer did not extend towards the south of the Tomb Trench; so we may conclude that the Pillared Hall or the pillars were not extending further to the south. We can now state that the Hall had all told eighty pillars, 72 located by Spooner in his plan and 8 more referred to on p 27 (Fig. 2). Besides these there were four more pillars at the entrance.

<sup>1</sup> In this connection we may point out to the Buddhist tradition stating how the Buddha had predicted that there were three dangers for Pāṭaliputra viz. fire, water and mutual dissensions among the inhabitants. Here we find that it was fire which brought the complete destruction of the Pillared Hall.

## EXCAVATION IN TOMB AREA

*Period II, c. 150 B.C. to 100 A.D.*

Towards the northern section of this trench we found a wall of two courses running east to west. It measured 5 ft. 3 in.  $\times$  2 in. Another wall in the western section measuring 3 ft. 9 in. running north to south joined the above wall at right angle on its western end. This wall was sealed by layer 4 and was resting on layer 6.

### TRENCH TB

We did not find any structures of any period in this trench. Regular layers were found up to a depth of about 9 ft. The trench was excavated up to a depth of about 21 ft. 3 in. Here the natural soil was found at a depth of 20 ft. 6 in. The layer 10 was 12 ft. 3 in. thick in this trench. It was composed of coarse sand, compact and loose earth, alluvial silt, etc. Later on it was found that this layer 10 was the filling of a canal.

### TRENCH TC

A wall of the Period VI (Muslim) was found running throughout the southern section of the trench. It was sealed by layer 1. This was built over a wall of Period IV. When the top of layer 4 was the walking surface, the wall of Period VI was built. It was resting on layer 6.

Between pegs X and XI a piece of fallen sal wood plank was found lying north to south at a depth of 18 ft. 9 in.

### TRENCH TD

In this trench between pegs VII and VIII, we found a wall of three courses (made of brickbats) measuring 5 ft.  $\times$  1 ft., running east to west and its foundation being at a depth of 8 ft. below the surface. It was resting on layer 8 and was sealed by layer 6; it cut into layer 7. Stratigraphically this wall belonged to Period II. We found a Lankey Bull type Kauśāmbī coin, a cast coin and a punch-marked coin from below this wall.

Between pegs XII and XIII we found portion of a wall of three courses measuring 11 in.  $\times$  9 in. in length running east to west. A third wall running north to south between pegs XV and XVI measuring 2 ft. 10 in.  $\times$  1 ft. was at right angle to the above wall but not reaching it. All these walls were resting on layer 8 and sealed by layer 6.

In the trench TE between pegs XI and XII a wall of ten courses measuring 3 ft. 5 in.  $\times$  1 ft. was found running east to west. Its foundation was at a depth of 5 ft. 5 in. If this wall and the above walls described in the trench TD are produced on all the sides, the result is a room measuring 10 ft. 6 in.  $\times$  8 ft. 6 in. belonging to Period II. All these structures were built over layer 10 which was the filling layer of the canal.

*Stone Capital Bases.*—In the trench TD we discovered three sandstone fragments at two places, viz. between pegs 0 to 1 and VI to VII. They look like bases of Mauryan capitals.<sup>1</sup> They were about 10 ft. below the present ground level. Two of these fit with each other and give us an idea of the complete basis (Pl. XI). Such pieces were not discovered among the hundreds of stone pillar fragments found by Spooner. It is permissible to conjecture that two porch pillars south of the Hall, where probably lay its entrance, had these capital bases.

<sup>1</sup> See Chap. IX, p. 139 for a description of Stone Capital Bases.



*Wooden Basement.*—In this trench, which is to south-west of the tomb, between pegs V and VII, at a depth of 18 ft. 10 in. was discovered one sal wooden basement for the pillar intended to distribute its heavy load. There were four wooden planks, each being 4 ft. 6 in. long and 1 ft. 6 in. broad, lying north to south, wedged by four other wooden planks. The whole structure rested on compact blue clay.

*Canal.*—Excavations in trenches TA, TB, TC, TH and TE, west of the Tomb, showed (Fig. 5) that there was a canal going back to the Mauryan period. The canal was dug when the top of layer 11 was the walking surface. It may be also noted that the foundation trenches for the pillars of the Hall were also excavated when the top of layer 11 was the walking surface. Hence they were contemporary. The width of this canal was 43 ft. and in the centre it was 10 ft. deep (Fig. 5). This canal was extending straight to the west to KR II area (see below p. 39). The lowest descending layer in Fig. 9 represents the ancient canal in KR II area. Probably it extended to the east of the Tomb also and that the wooden planks were at its bottom and it was also extending to KR V which lies to the east of the wooden planks and the Hall. It was quite likely that there was a regular canal flowing to the south of the Hall and contemporaneously with it, which eventually connected it with the Son, flowing about two furlongs to the south east of the Hall. Probably this canal was ultimately connected with the Ganga and might have been used to waft the huge pillars to the site of the Hall from the quarries at Chunar.

After the destruction of the Hall by conflagration, this canal was filled by dark black compact clay, coarse sand and loose soil. We found a number of polished and unpolished fragments of sandstones from this canal at different levels, which proved that it was filled after the destruction of the hall; otherwise there would not have been so many sandstone fragments.

The eastern section of the trenches TA, TB, TC, TH and TE would show that the layer 9 sealed the flood deposit accumulated in the canal area (Fig. 5). Structures of Period II (c. 150 B.C. to 100 A.D.) were built over this sealing layer. These structures seemed to have been built towards the end of this period.

TRENCHES TE AND TH: *Period IV, c. 300 to 450 A.D.*

In the eastern section of these trenches at peg VI we found a structure in a very dilapidated condition. Its foundation was 2 ft. 3.5 in. below the ground level. This structure was mostly made of brickbats and was of two to eight courses. The total length of this structure was about 11 ft. Six incomplete walls were meeting at a regular interval of one foot at right angle to the above wall. These walls were sealed by layer 3, cut into layer 4 and were resting on layer 5. Were they formed to be ovens?

*An Oven.*—In the trench TH between pegs III and V we found an oven of six courses and towards the east of this oven, there was a brick with a circular depression, probably for keeping utensils, etc. The total length of this structure was 4 ft. 4 in. The whole structure was bonded on all the four sides by bricks on the edge. It was sealed by layer 6 and was resting on layer 8. So it belonged to the Period II, i.e. 150 B.C. to 100 A.D.

TRENCHES TG, TK AND TM: *Period II, c. 150 B.C. to 100 A.D.* (Fig. 6 and Pl. IX).

In these trenches we came across a wall of 22 ft. 9 in.  $\times$  1 ft. 6 in. between pegs B and C and running north to south. At a distance of 7 ft. 4 in. towards the east, another wall between pegs A and I and parallel to the above was found of the same measurement.

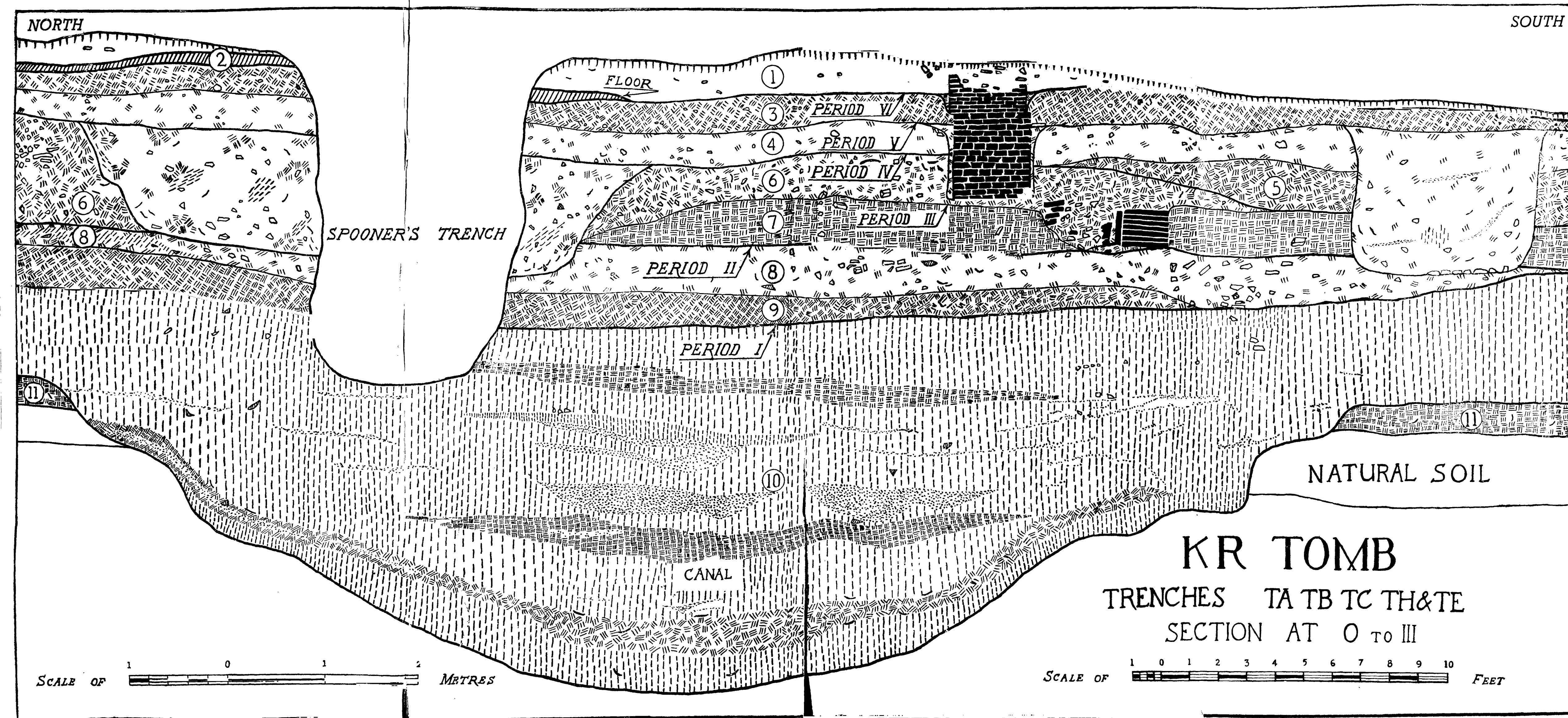


FIG. 5.  
N. B. Depression in the South is not.

## EXCAVATIONS IN TOMB AREA

These two walls were divided by three walls each at right angle and thus forming two rooms. Dimensions of these rooms were 9 ft. 6 in.  $\times$  7 ft. 4 in. and 8 ft. 10 in.  $\times$  7 ft. 4 in. A third wall parallel to the first two walls was found of the same length towards further east. These walls were joined by two walls at right angle and thus forming a big verandah measuring 19 ft. 6 in.  $\times$  5 ft. 3 in. These two rooms and the verandah were resting on layer 7 and sealed by layer 5. We found a few cast and punch-marked coins from layer 5; so it belonged to the Period II, c. 150 B.C. to 100 A.D.

In the KR IV area also we came across such structures belonging to this period; see p. 43.

*Soak-pit*.—In the south-west corner of the trench K, we came across a soak-pit or ring-well 1 ft. 8 in. in diameter. There was a brick pavement, 3 ft. 6 in. wide, on three sides of this soak-pit. The soak-pit was made of terracotta rings, 4 in. wide in section. It also belonged to the Period II (Pl. IX).

*Period III, c. 100 to 300 A.D.*

In the southern section of the trench TK between pegs B' and F' we found a wall of four courses, measuring 12 ft. in length running east to west. Its foundation was 3 ft. 8 in. below the ground level. It was resting on layer 5 and was sealed by layer 4. This wall was separated from an earlier wall of Period II by a layer of black compact clay, 1 in. in thickness. The southern face of this wall was irregular. We could not trace any wall parallel to or connected with this wall in this trench; however, in the western section of the trench TM, we found a wall measuring 5 ft. 3 in. meeting the above wall at right angle.

In the trench TG between pegs B' and F' we found a wall of 21 courses running east to west, measuring 10 ft. 10 in. in length. Its foundation was 4 ft. 10.5 in. below the ground level. It was mostly made of brickbats. At the western end the wall took a turn towards the north, but could be traced over length of one foot only. The outer face of this structure was very irregular. We could not trace the other two sides of the room, as towards the north of the trench TG, there was a trench excavated by Spooner. Stratigraphically this structure seemed to be contemporary with the above structures of trenches TK and TM and so belonged to Period III.

*Period IV, c. 300 to 450 A.D.*

*Well*.—In the trenches TG and TK between pegs I and B we came across a well, 5 ft. in diameter. One hundred and four courses of this well were exposed till we reached the sub-soil water in May 1955. This well was sealed by layer 2. A circular pit was dug for digging this well. Special kinds of bricks were used for it, broader at the outer edge and narrower at the inner one, 10 in. in length and  $2\frac{1}{2}$  in. in thickness; their breadth was 7 in. at the inner edge and 9 in. at the outer one. Stratigraphically this well belonged to Period IV (Pl. IX).

In the trenches TG and TK between pegs V and VI we found a wall of 14 courses running north to south and measuring 19 ft. It took a turn towards the east in the trench TK along the southern section of the trench. It was preserved up to a length of 3 ft. Its foundation was 4 ft. below the present ground level. It was sealed by layer 3, which was loose dirty soil mixed with brickbats and resting on layer 6. This structure was built when the top of layer 4 was the walking surface. So it belonged to Period IV.

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<sup>1</sup> Soak-pits or ring-wells are very common in India. Practically from all the ancient sites these terracotta soak-pits are found.

In the trenches TH and TK, between pegs XI and XII we found a wall sealed by layer 3 and resting on layer 6. It measured 13 ft. 6 in. This wall was further traced in the trench TD along the western section up to a distance of 12 ft. 6 in. Another wall running east to west and measuring 17 ft. in the trenches TE and TD between pegs XIV and XV joined the above wall at right angle.

We found only the foundation lines and the debris of this wall in the trenches TD and TE, on the basis of which this reconstruction of the wall in this trench has been made. This whole structure belonged to Period IV.

*Period III, c. 100 to 300 A.D.*

In the trench TG, between pegs VIII and XII and towards the northern section, we found a wall measuring 9 ft. 10 in. The northern face of this wall was irregular. The wall of Period IV described above had cut this wall for laying out its foundation trench.

In the same trench between pegs XV and XX, we came across a structure of very flimsy and dilapidated condition. It was made of brickbats. Its foundation was 3 ft. 6 in. below the present ground level. The structure was in such a bad condition that nothing could be made out of it.

*Period IV, c. 300 to 450 A.D.*

In the trench TJ, between pegs XXVII and XXXII, we found traces of a room. Actually we found the foundation lines and the debris of walls on the basis of which the dimensions of the room were found to be 7 ft. 10 in.  $\times$  6 ft. 9 in. However, two walls were traced later, one in the northern section of the trench measuring 1 ft. 4 in. consisting of four courses and the other in the southern section of the trench measuring 2 ft. 8 in. and consisting of 11 courses. These walls were sealed by layer 3, resting on layer 5.

*Period V, c. 450 to 600 A.D.*

In the trench TJ we found between pegs XXI and XXII towards the northern section, a wall of two courses. Its foundation was 2 ft. 5 in. below the ground level. Another wall of two courses was found between pegs XXVI and XXVIII towards the southern section of this trench. These walls were made of brickbats and were in a very dilapidated condition. They were sealed by layer 2 and were resting on layer 2A which was a huge pit.

*Soak-pit.*—In the baulk between trenches TG and TK and between pegs D and P, we found a ring-well or soak-pit having 14 terracotta rings at a depth of 3 ft. below the ground level. Diameter of the soak-pit was 1 ft. 11 in. Each ring was 4" in width. It was sealed by layer 2. It was built when the top of layer 3 was the walking surface. So it belonged to Period II.

**TRENCHES TL, TN and TF**

In the trench TL, between pegs II and V, we found a platform of five sal wood planks running south to north. They were found at a distance of 10 in. from the southern section. The length of these planks was 28' and breadth<sup>1</sup> 4' 8", and they were wedged together. At a distance of 3 ft. 3 in. from the south end of this platform there was a square basement of 4 ft. 6 in. consisting of four planks running north to south. These planks were so kept that the joints of the previous planks under them were covered up

<sup>1</sup> The width of easternmost plank was 12"; the remaining four planks were 10", 8", 10" and 11" wide respectively; there was a gap of 5" in between the different planks, so the total width was 56".

except in one case. There were broken remains of a few planks running east to west which were wedged with the above four planks to form a block.

At a distance of 12 ft. 6 in. to the north of this square basement, in the trench TF we found another wooden basement 4 ft. 5 in. in length over the first five big planks (Pl. VII).

These two wooden basements of the trenches TF and TL were resting on the platform of five wooden planks which were lying immediately above the foundation of blue compact clay. The northern section of the trench TF would show the foundation lines of the pits for the wooden platform (Pl. VII). Spooner also had discovered a few somewhat similar basements under some pillars of the Hall (Pl. VIII), but they had no planks under them.

Close to this platform, there were three upright posts towards the west in the trenches TL, TN and TF and two in the east in the trenches TF and TL. Four of these wooden upright posts were supported by small wooden packings.

Spooner had shown in his plan<sup>1</sup> the wooden platform which was found by us in the trenches TF, TN and TL (Pl. VII). But our excavation showed that he had not excavated the whole area of trenches TF, TN and TL. The section of these trenches showed that no excavations were done here (Pl. VII). Apart from this, Spooner had not shown in his plan the five upright posts which we found in the trenches TF, TN and TL, nor the two wooden basements above this platform.

The problem of the six wooden platforms discovered by Spooner in his excavation in 1912-13 and the seventh platform fully exposed by us in 1955 is still defying a definite solution. Since, however, they were under canal water, it was not unlikely that they might have supported a staircase leading to the Pillared Hall.<sup>2</sup> This is however a mere hypothesis. Assuming it to be correct, we have drawn a conjectural restoration of the plan of the Mauryan Pillared Hall (Fig. 3).

#### D. KR A TO G

The main object of the excavations in this area was to determine the western extent of the Mauryan Pillared Hall. Dr. Spooner had found evidence of ten rows of monolithic pillars running north to south (Fig. 2), but was not sure whether there were any further rows lying to the west. The area between the last western row of the pillars shown on the above plan (Fig. 2) and the open space to its west, 45 ft. × 105 ft., was partly excavated by Spooner, but he could not reach down to the Mauryan level. The area was considerably disturbed, no doubt, but there was hardly any alternative before us but to excavate it, if the above question was to be solved.

The area was divided into cuttings A to G and was scraped to the depth of about 15 ft. below the ground level, with a view to ascertain the successive layers. No traces of any ashy layer were found in any of these trenches. However, fragments of a Mauryan pillar were found in cutting G, 7 ft. below the surface. These were, it may be noted, not embedded in any layer of ashes. They were lying in a pit sealed by humus. This pit was full of brickbats. No big fragments of the pillars of the Mauryan Hall were found

<sup>1</sup> *A.S.I., A.R.*, 1912-3, Pl. XLII.

<sup>2</sup> It is interesting to note that Dr. R. E. M. Wheeler has also made a similar suggestion in connection with these planks, "In front of the columns is a row of massive timber rafts, presumably designed to carry a platform or a staircase on the unstable sub-soil of the site". *Ancient India*, No. 4, p. 96.

Our excavations gave no indication that the Mauryan Hall extended further west beyond the westernmost row shown in Spooner's plan (Fig. 2).

Generally speaking in all cuttings, first four feet were found to be disturbed and full of debris. In the cutting B, layers were clearest. Leaving the first seven layers in the disturbed portion, we found layer 8 consisting of a sandy patch about 6 in. in thickness. Layer 9 was grey in colour and mixed with sand. It was about 18 in. in thickness. Layer 10 consisted of compact clay with few potsherds and charcoals. Layer 11 consisted of black compact clay with frequent yellow pockets. Layer 12 consisted of greenish compact clay with no potsherds, being irregular in behaviour. Layer 13 was of grey compact clay. Layers 12 and 13 were void of any potsherds or other evidences of human occupation. Layer 13 went down to sub-soil water level and was about 3 ft. in thickness; water level in April 1951 was 15.5 ft. below the present ground level.

In this trench we came across a very small wall with 11 courses. It was sealed by layer of debris. From terracottas and other finds associated with this wall, we came the conclusion that it belonged to Period IV, i.e. *c.* 300 to 450 A.D. The dimension the bricks used were 1 ft. 7 in.  $\times$  11 in.  $\times$  2.5 in. A small wooden sal piece was found here at a depth of 10 ft. 5 in.

Here we found traces of a lime plastered wall, 2.5 ft. below the ground level. The bricks used were worn out and broken ones. This structure stratigraphically seemed to be later than the wall of trench A. It belonged to Period V, i.e. c. 400 to 600 A.D.

In trench B, first five layers were disturbed, the lower ones being the usual ones. Layer 8 of this Cutting was a local sandy patch as already stated above. Here we got a cross-section about 18 ft. deep and no traces of any ashy layer could be found. The soil below layer 11 was natural green compact clay mixed with yellow specks. No potsherds or brickbats were found below layer 11.

These trenches consisted of a huge pit, about 10 ft. in depth terminating in a well belonging to Period III, i.e. *c.* 300 to 450 A.D. This well was 4 ft. 2 in. in diameter. Trench E was not much disturbed and showed the same layers as those in section A.

These two trenches were disturbed very considerably. Trench G disclosed a group of seven Mauryan pillar fragments. They were lying in a pit sealed by the top-most layer.

*Conclusion.*—The careful scraping in this area showed that there was no alluvial deposit, about eight feet in depth, anywhere in the area we excavated so near the Hall. Spooner had once advocated the view that a heavy flood had left such a deposit and that the Hall continued to be used in a restricted way for several centuries even after the flood had subsided.' If there was such an extensive flood deposit in the Hall area, it

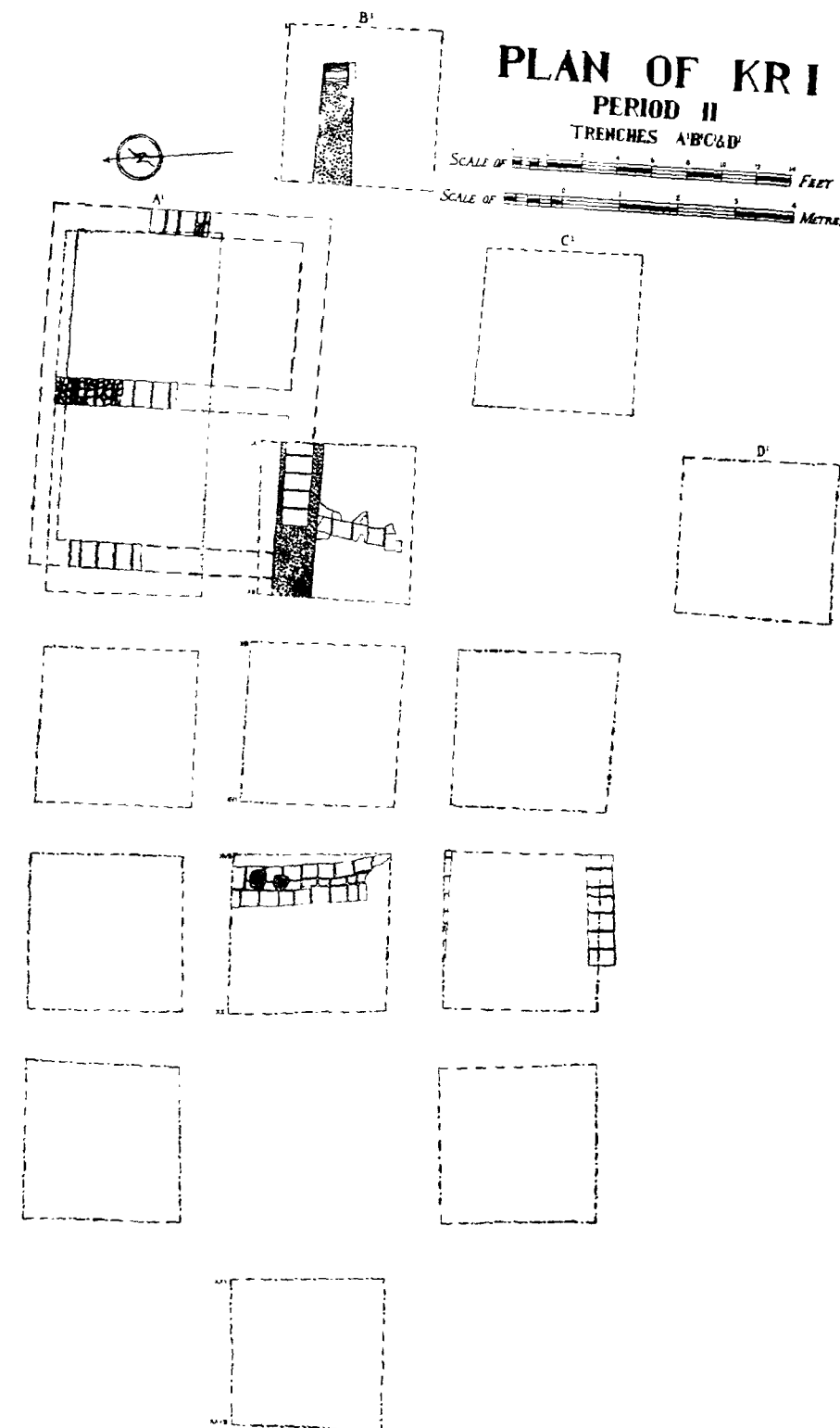


FIG. 7

<sup>1</sup>A.S.I., A.R., 1912-13, p. 62.



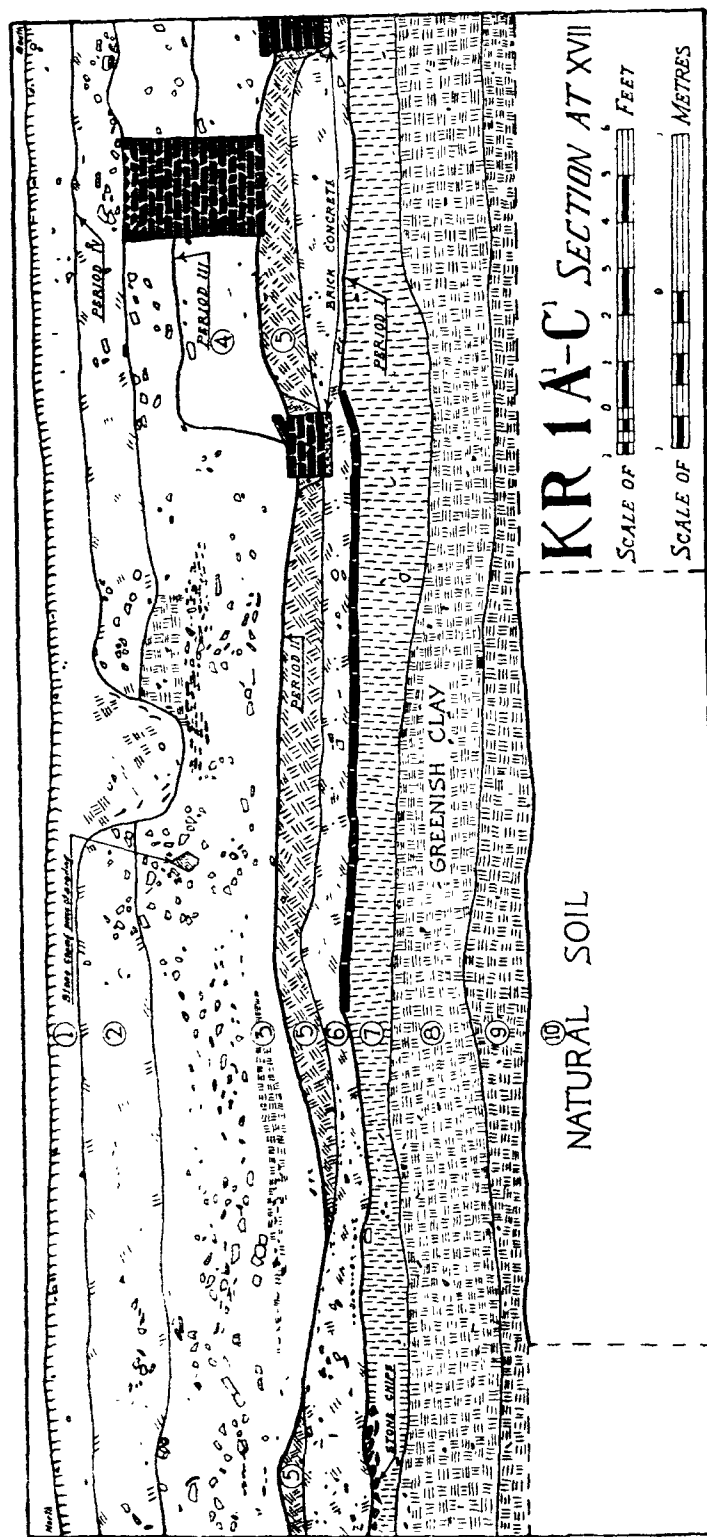


FIG. 8.

aces should have been found in this KR area, only 40 ft. to the west of the Hall. We however got them nowhere. The sandy layer in G referred to above is purely local; it could not be traced in other trenches of KR.

#### E. KR I (Figs. 7 and 8; Pl. XII)

After scraping and excavating the disturbed area KR A to G, we decided to dig in the plot lying to the west of the Mauryan Pillared Hall. The object in excavating here was to find out whether the ashy layer and pillar fragments could be found in this area and to ascertain whether the so-called alluvial layer referred to by Spooner could be traced. Here the plot was divided into four rows of trenches—A', B', C' and D'. They were running from East to West. These sections were marked by pegs which were at a distance of three feet from each other. We excavated only 14 trenches. Each trench was 9 ft. × 9 ft. area. They were: A' V-VIII, IX-XII, XVII-XX and XXI-XXIV; B' I-IV, V-VIII, IX-XII, XIII-XVI, XVII-XX, XXV-XXVIII; C' V-VII, XIII-XVI, XVII-XX, XXI-XXIV; and D' IX-XII. Later on we removed the baulk between these trenches to get connected section.

The layers exposed in these trenches were more or less similar to those found in the cuttings KR A to G. The upper layers *viz.* 1, 2 and 3 which were about 4 to 5 feet in thickness, were all disturbed and generally full of pit materials. Few sherds of the N.B.P. wares were found in layers 7, 8 and 9 up to a depth of about 10 ft. 6 in. below the present ground level. Most of these N.B.P. Wares were too fragmentary to indicate any definite shape. In no trench did we find any thick ashy layer, like the one found in the trench north of the Tomb. Nor did we come across any big fragments of Mauryan stone pillars. However, some small chips of stone pillars were found in the trench A' XVII-XX (Pl. XII), about 7 ft. 3 in. below the ground level in its north-west corner. Layer 10 was natural soil and so has yielded no antiquities or potsherds. Layer 9 was of black clay, 8 of compact dark greenish clay and 7 of light greenish soil. These have yielded some red and grey coarse wares. Layer 6 is soil mixed with coarse sand, whereas layer 5 is compact brown soil and layer 4 is black soil (Fig. 8).

#### TRENCHES A' V-VIII, IX-XII AND B' V-VIII, IX-XII

Period II, c. 150 B.C. to 100 A.D.

In A' V-VIII we came across one wall of 18 courses in the western side measuring 4 ft. 2 in. and another of 9 courses in the eastern side measuring 3 ft. 2 in. belonging to Period II (c. 150 B.C. to 100 A.D.). These walls were sealed by layer 4 which was of black soil. They cut into layer 5 of compact brown soil and rest on layer 6 which was of soil mixed with sand. Traces of a wall meeting at right angle to the above wall were also found in the northern section. Eventually we found a room measuring 13 ft. × 8 ft. 6 in. in dimensions.

Adjoining to this room and parallel to its western wall, we found another wall measuring 4 ft. 2 in., running north to south in the western side of the trench A' IX-XII. Another wall running east to west and measuring 4 ft. 8 in. belonging to the same period was found in the trench B' IX-XII. The northern wall continued in the northern section of the trench. These three walls formed a room measuring 13' × 8' 6"; the eastern wall was common to this room and the one mentioned in the preceding paragraph.

The walls of these rooms of this period, marked by projecting concrete foundation built over 5 in. to 8 in. thick compact greenish mud, were immediately lying over layer 6. The bricks of these walls were used lengthwise. No offsets for the plinth had been left. Dimensions of bricks used in these walls were 1' 6 in. × 5 in. × 2' 5 in.

*Period III, c. 100 to 300 A.D.*

In the trench A' V-VIII we found a wall of nine courses measuring 2 ft. 2 in. in length running north to south and sealed by layer 3A, which was full of potsherds and brickbats. This wall was resting over the wall of Period II described above. No complete bricks were used in this wall. In this trench we could not trace anywhere any wall belonging to this structure, and so no definite plan of the structure could be known.

## 2. TRENCH A' XVII-XX

*Hearths.*—Traces of two hearths almost circular in shape were found in the north-east corner of this trench about 7 ft. 6 in. below the ground level. These hearths were resting on layer 8 and sealed by layer 7. Thus they marked the earliest occupational level belonging to Period I (Pl. XII).

*Period III, c. 100 to 300 A.D.*

We came across in the south-west corner of the trench a very flimsy and irregular wall of two courses at a depth of about 5 ft. below surface, measuring 3 ft. 4 in. in length. This wall was sealed by layer 3 and was resting on layer 5, which was of dirty compact earth mixed with potsherds.

## 3. TRENCH A' XXI-XXIV

In the south-west corner one coarse wall of brick-bats was found belonging to the Period II at a depth of 6 ft. below the ground level. As this wall was in a very dilapidated condition, we could not form any definite idea about the building of which it might have formed a part.

## 4. TRENCH B' I-IV

In this trench towards the north we found five courses of a wall measuring only about one foot in length resting on the concrete foundation about 2 in. in thickness. This wall was about 5 ft. 9 in. below the ground level and was resting on layer 6 and sealed by a huge pit. The bricks were used lengthwise. Stratigraphically this wall also belonged to the Period II, but it had got no connection with the rooms of the trenches A' V-VIII and A' IX-XII, which belonged to this period.

*Period III, c. 100 to 300 A.D.*

In the western side of the trench we came across a very small wall of three courses measuring 1 ft. 4 in. in length. It rested on layer 5, cut into layer 4 and was sealed by layer 3, which was a huge pit. Contemporary to this structure we found a wall of 2 ft. 3 in. running east to west and another wall about 2 ft. 3 in. in length running south to north and joining the earlier wall at right angle. As these walls are very small and made of brickbats and were in a dilapidated condition, it was difficult to get any idea about the structures to which they belonged. However, by considering the antiquities found in them, we put them to the Period III.

*Period IV, c. 300 to 450 A.D.*

This phase is represented by a wall of just two courses of bricks seen in the northern face of this trench resting over layer 2. As it was a very tiny structure, nothing could be said about it. In this wall no complete bricks had been used.



5. TRENCH B' IX-XII

Almost in the centre of this trench we found a wall of two courses measuring 5 ft. in length and running north to south. This wall was sealed by a layer which was a huge pit. It rested on layer 6. So we had put it to the Period II. This wall was badly robbed.

6. TRENCH B' XIII-XVI

*An Oven.*—Here an oven made of thick burnt clay, 3 ft. in thickness and oval in plan, was found in layer 8 sealed by layer 7, indicating the earliest occupational level belonging to Period I. This oven contained soot-stained potsherds and burnt clay.

7. TRENCH B' XXV-XXVIII.

We excavated this trench up to a depth of 19 ft. till we reached the sub-soil water. The soil was full of pittish material and so we could not find any structural and regular layers.

*Period III, c. 100 to 300 A.D.*

In the south-east corner of this trench we came across a wall of two courses made of brickbats. It was measuring 2 ft. It rested on layer 3C which was of loose soil and sealed by layer 3A which was a greenish patch and was earlier than layer 3. Probably it was a floor of the structure of Period II.

8. TRENCH B' XVII-XX

*Wall of Square Bricks.*—A building of the earliest Period II is represented by a single course of complete bricks measuring about 12 in. square (Fig. 8). The length of the wall was 8 ft. It was sealed by layer 6 and rested on layer 7. This wall stratigraphically seemed to be earlier than the walls of the two rooms described above. We had not found any datable material in layers associated with these walls by which we could date them. There is a very thin layer between these two structures, and so there might not have been much difference in their date. However, we have put them into a sub-phase of Period II. This wall might have been built in the beginning of the Period II, c. 150 B.C. to 100 A.D. From this site in no other trench we had found any wall of square bricks.

A coping stone of railing was found in this trench in a pit 3 ft. 3 in. below the surface. It had three sockets under it. Though stratigraphically it was found in Period IV, it was carved earlier. It was decorated with the vine creeper motif (Pl. LXII)<sup>1</sup>. A number of N.B.P. sherds were found from layers 7, 8 and 9.

9. TRENCH C' V-VIII

This trench was excavated up to a depth of about 9 ft. No structures of any period were found. At a depth of about 7 ft. below the ground level, a layer of pottery 9 in. in thickness was found. It was sealed by layer 6a and rested on layer 7.

10. TRENCH C' XIII-XVI

*Period IV, c. 300 to 450 A.D.*

In the eastern face of this trench a wall of two courses of brickbats sealed by layer 2 and resting on layer 3 was found. It could not be correlated with any other wall.

<sup>1</sup> See Chap. IX p. 136.

## 11. TRENCH C' XVII-XX

In the southern section of this trench a wall of six courses, 6 ft. 4 in. in length, was found. In the northern section another wall of four courses, 6 ft. 3 in. in length, was found. These walls were about 6 ft. 4 in. below the ground level. They were not parallel to each other, but they were sealed by the same layer 4 and rested on layer 6. Foundations for these walls were dug when the top of layer 5 was the walking surface.

Practically in the centre of the trench, there was a wall of 16 courses running east to west, built purely of brickbats. The length of the wall was 7 ft. 9 in. Sealed by layer 2, it rested on layer 5 and the foundation of the wall was excavated when the top of layer 4 was the walking surface. It belonged to Period III.

## 12. TRENCH C' XXI-XXIV

This trench was excavated up to a depth of 10 ft. The area was very much disturbed and at a depth of 7 ft. 6 in. we found a very big debris of brickbats.

## 13. CONCLUSION

In conclusion we may point out that the above analysis shows that the area immediately to the west of the Pillared Hall was not in occupation during the Mauryan period. None of its brick structures goes to a period earlier than the Śuṅga one (i.e. Period II). Nor does it show any traces of alluvial deposits like those which Spooner thought could be detected in the Hall itself. Earliest occupational evidence was found generally at a depth of 10.5 ft. consisting of N.B.P. Ware, red ware and coarse grey ware. They would show that the Mauryan period occupational level was about 10 ft. below the present surface. This was the walking surface, when the Mauryan Pillared Hall was constructed.

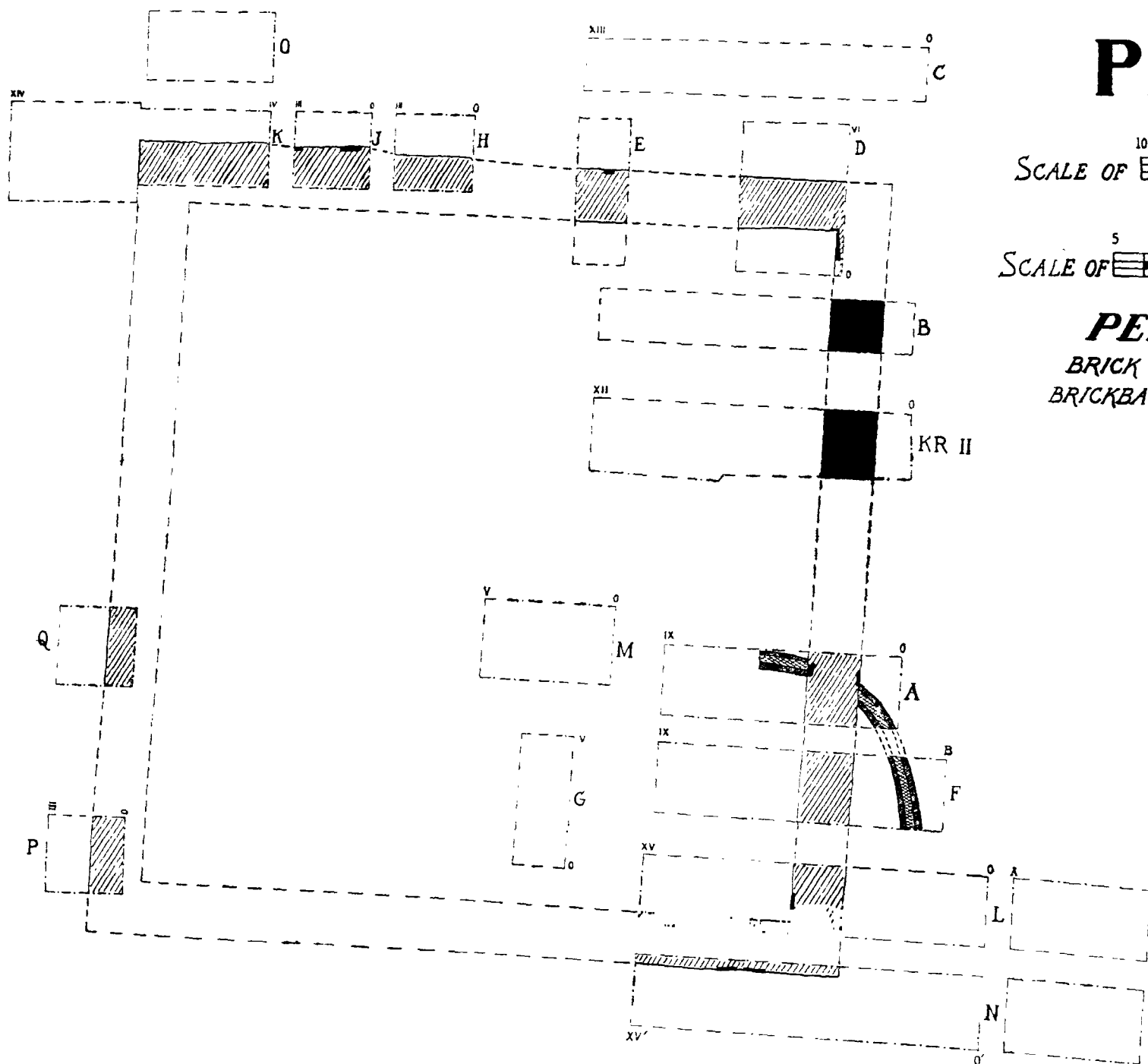
## F. KR II (Figs. 9-10 and Pls. XIII-XV)

At a distance of about 133 feet west of the Tomb a number of trenches of various measurements were laid with the main object to see whether any structure belonging to the Mauryan period could be traced here. No building belonging to the Mauryan period was discovered. The most interesting discovery was an incomplete apsidal structure of Period II and a very big rectangular structure<sup>1</sup> of Period IV (Fig. 10). The most important antiquity was a sealing with an inscription *Saghasa* and a plan probably of a monastery; this sealing belongs to Period III, c. 100 to 300 A.D. and was found in Trench R (Pl. XV).

*Period II, c. 150 B.C. to 100 A.D.*

In trenches A and F remains of an apsidal structure were discovered (Pl. XIII). It started between pegs V and VI and was traced up to the western section of the trench F,

<sup>1</sup>Within this structure there were scattered bricks and brickbats. Had we found traces of rooms, we could have called it a quadrangular monastery; had we found traces of supporting pillars, we could have called it a Hall. But we found neither. The area was much disturbed.



# PLAN OF KR II

SCALE OF FEET

SCALE OF METRES

**PERIOD II**  
 BRICK   
 BRICKBATS

**PERIOD IV**  
 BRICK   
 BRICK DEBRIS

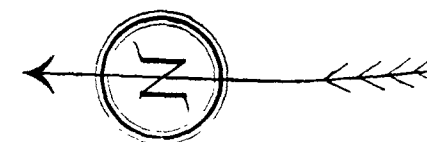
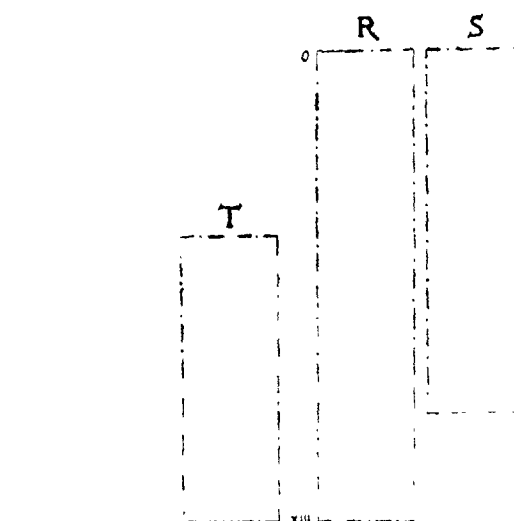


FIG. 9.

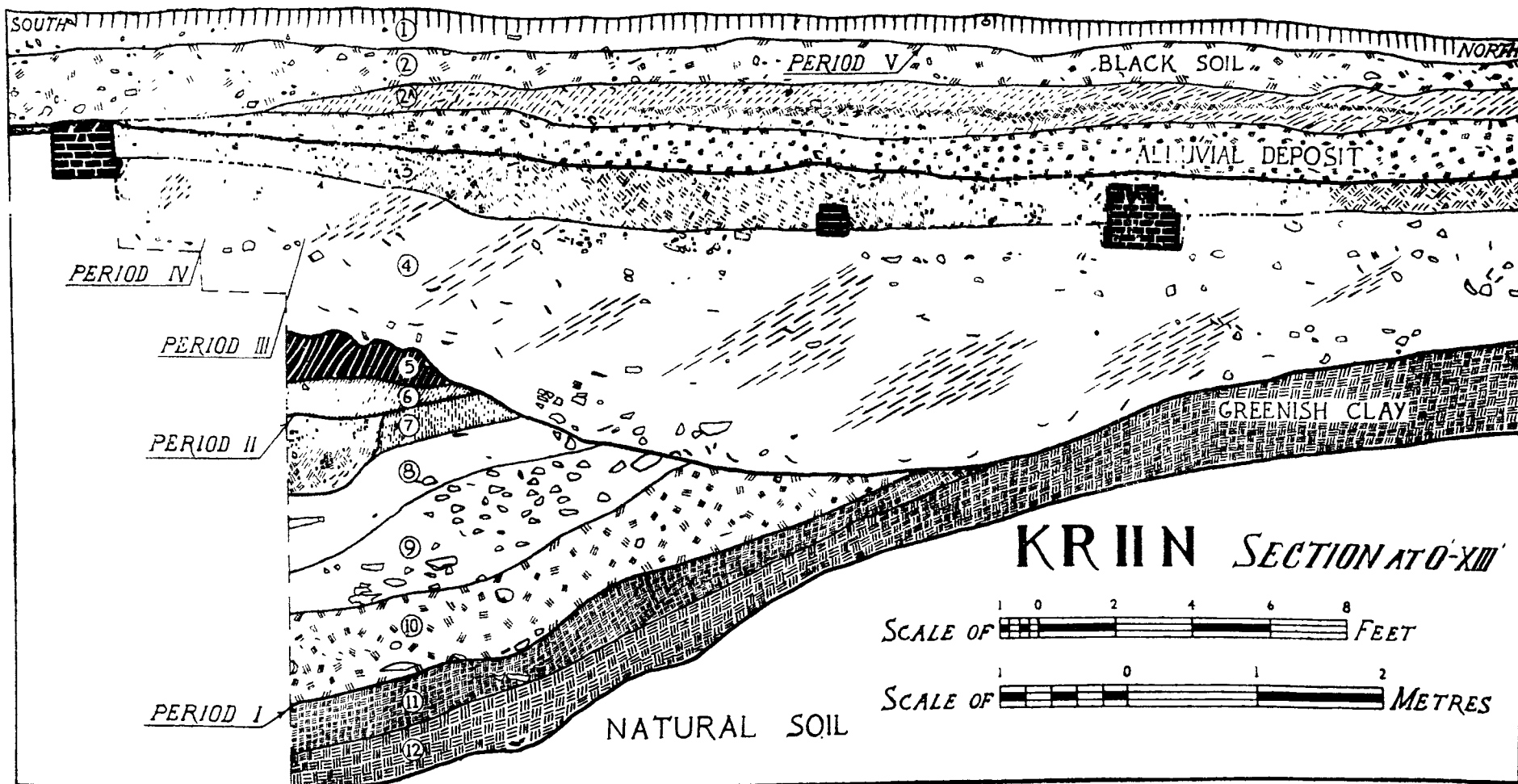


FIG. 10.

# KR III SECTION AT XI-1

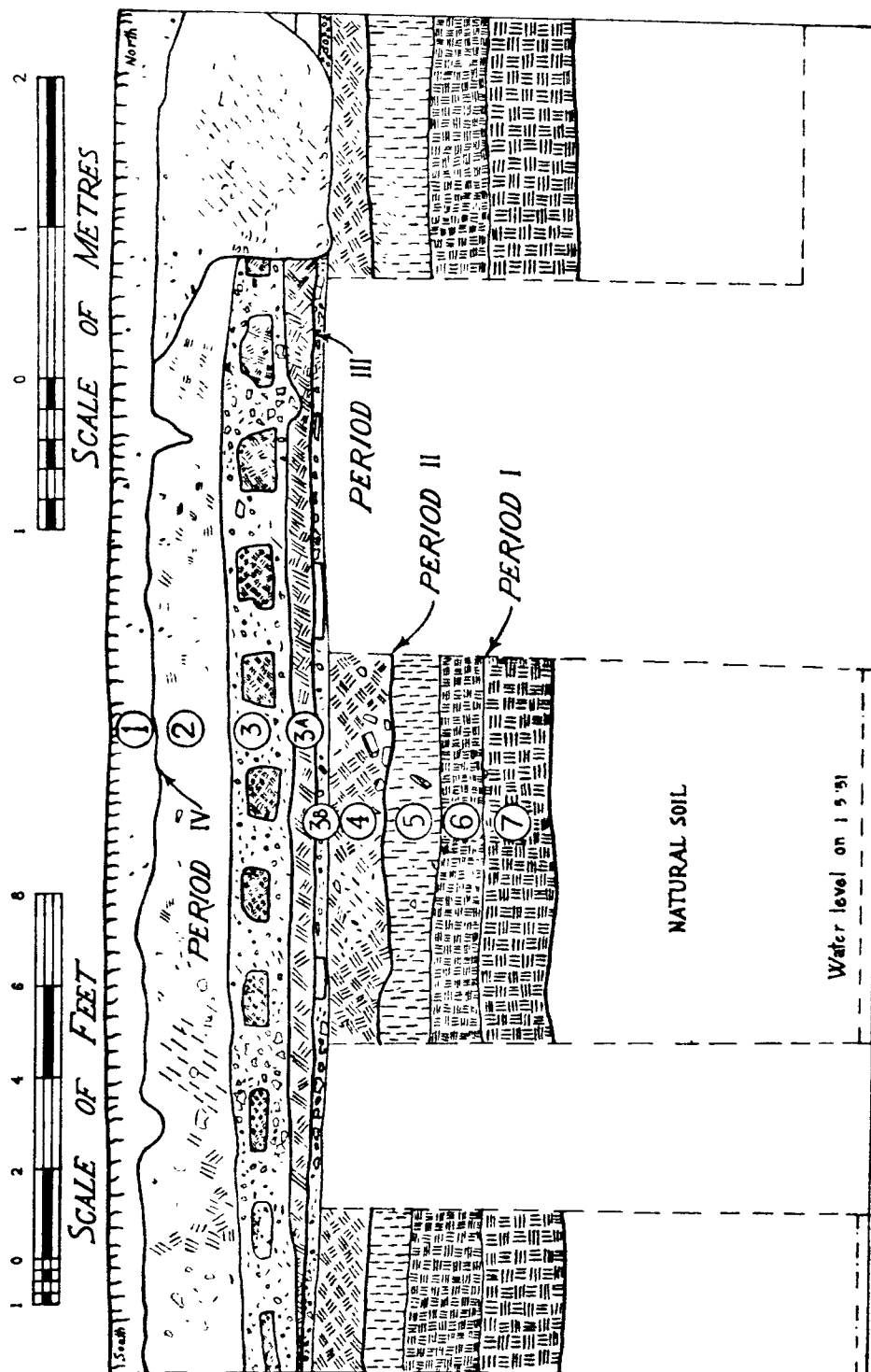


FIG. 11.



measuring 27' 9" in length and 2' 2" to 2' 6" in breadth. It had five courses only. The topmost course was of only one brick. This structure was resting on layer 10 which was loose light blue soil with few brickbats. A number of trenches viz. M, G, L, and N were laid towards north and west of the above two trenches. But no traces of any building contemporaneous with this apsidal structure were found. The whole area was very badly disturbed. Such traces as could be discovered of the apsidal structure showed that they were sealed by layer 9, full of brick debris. Brick apsidal structures are rather rare, but we have found two in Kumrahar; see below p. 58.

*Period IV, c. 300 to 450 A.D.*

In trenches KR II, A, B, D, E, F, H, J, K, L, N, P and Q traces of a big rectangular structure (Fig. 10) measuring 77' 10"  $\times$  75' were found, its walls having one to thirty courses. The width of the wall was about six feet (Pl. XIV). From the level of the bottom of the wall of this structure, it was found that there was a slope of about 4 feet towards the eastern side, indicating that the canal which was found in the Tomb Area continued up to the trench N and probably further west. Towards the east of the eastern wall and towards the south of the southern wall up to the trench A, we found a huge deposit of sand in all the trenches about 4 to 6 feet in thickness. This was probably for the purpose of filling the canal ditch, when the structure of Period IV in KR II was being built. No structure associated with this structure was traced anywhere. What was the purpose of this structure, it is difficult to say.

From the top layers of KR II two Muslim coins were unearthed.

#### G. KR III (FIG. 11 Pls. XVI and XVII)

To the south of KR III, Spooner had done some excavations and had found a few polished Mauryan sandstones, square in section, along with a hoard of Kuṣhāṇa coins and the famous plaque, taken by some scholars to be of the Bodhgaya temple. We did some excavations at this place in order to find out whether any structure of the nature of a palace or an administrative building existed here contemporaneously with the Mauryan Pillared Hall, using Chunar polished stones, not round but square in section. But to our disappointment, we could not find any such structure.

#### 1. TRENCHES III, III' and III A.

We laid out three trenches KR III, KR III' and KR IIIA measuring 51'  $\times$  6', 24'  $\times$  6' and 30'  $\times$  6' respectively at a distance of about 220 feet west from the chowkidar's shed<sup>1</sup> and immediately to the north of Spooner's excavations. In these trenches, we did not get any structure of Periods I and II.

*Period III, c. 100 to 300 A.D.*

This period was represented by a very dilapidated and fragmentary stratum in the southern side of the trench showing a concrete floor and two courses of bricks (Fig. 11). In the middle of this trench the stratum of this period showed only one course of complete bricks measuring 1' 6"  $\times$  11"  $\times$  2.75". All the structures of this period were badly robbed and showed just one course with bricks-on-edge and at irregular intervals; they were filled with brickbats and rubbish.

We found a hoard of nine silver-coated punch-marked coins (see below p. 88) from this trench from the layer 4 which was of compact clay mixed with sand.

<sup>1</sup> In our site plan (Fig. 2) this has been shown as chowkidar's shed. It has been subsequently converted into a miniature museum.





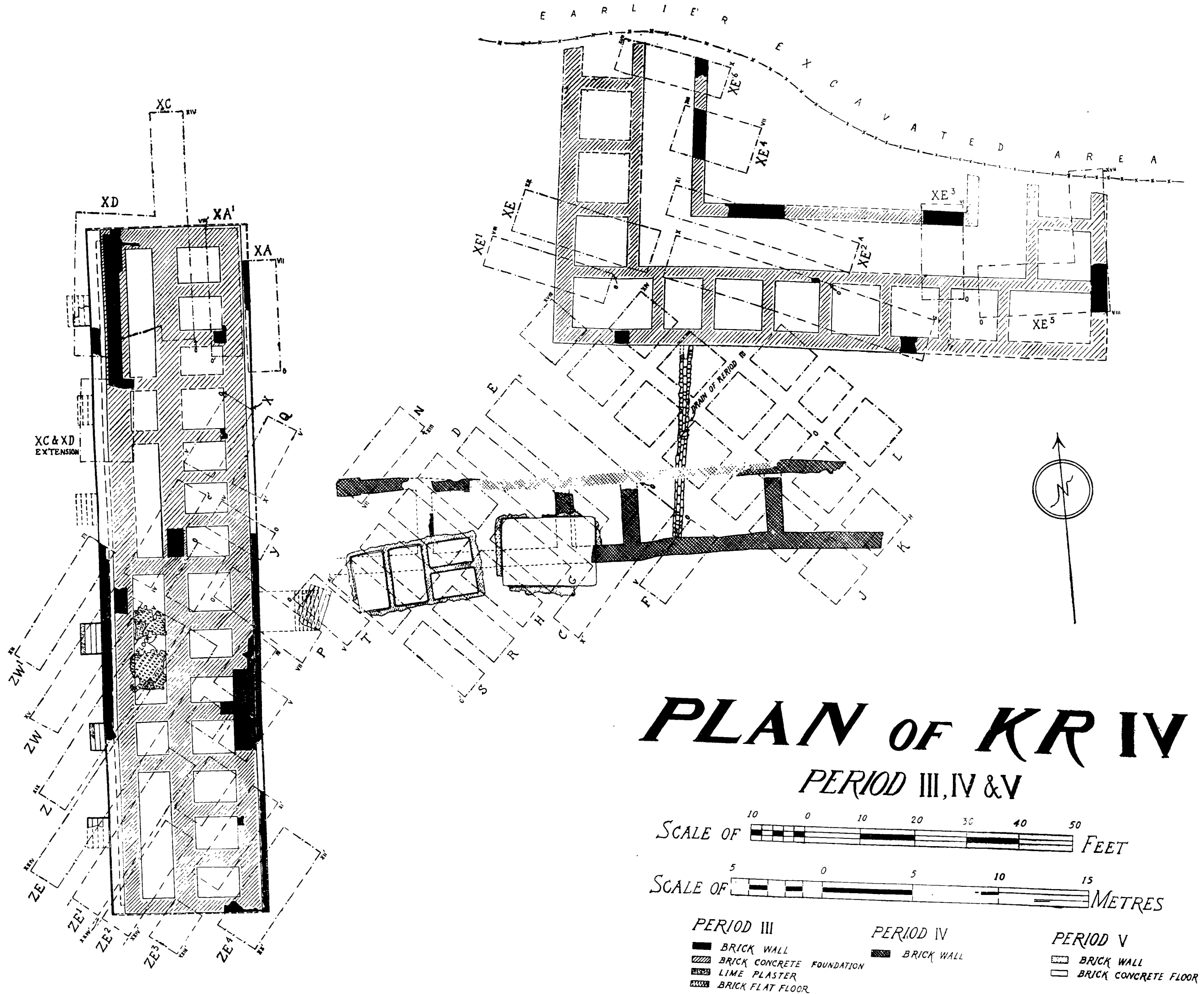


FIG 13.

Errata: Please read Periods III, IV, & V



about 6,639 square feet in area (Figs. 12 and 13). This was sub-divided into 47 trenches of various measurements, of which some were completely excavated and others only partially. Vertically, most of these cuttings were carried to a depth of 21' below the surface at which level the sub-soil water was encountered. We used to reach the natural soil about 6' above the sub-soil water in May 1952.

Our expectation to discover here religious establishments turned out to be true, for we came across a number of monasteries.

That the structures were monastic is rendered certain by the discovery of the seal with the legend *Śrī-Ārogyavihāre bhikṣusaṃghasya* (Pl. XXXII, 5) in this area, as also by the discovery of another sealing with the legend *Saghasa* (Pl. XXXII, 1), not more than 100 yards away towards the north from this site.

A few words are necessary here by way of general introduction about the layout of the monasteries we discovered in this area; they show a surprising variety of types in their layout. Only one Kushāṇa period monastery in the trenches XE, XE<sup>1</sup>, XE<sup>2</sup>, XE<sup>3</sup>, XE<sup>4</sup>, XE<sup>5</sup> and XE<sup>6</sup> is similar to the monasteries, with which we are usually familiar (Fig. 13). It had a courtyard in the centre; we could not completely expose its plan, as the remaining area had been excavated earlier. But our excavations disclosed rooms on its three sides with verandahs in their front varying in size from 7' × 9' 6" to 9' 3" × 6'. The rooms are usually small, but the corner rooms are bigger, being 15' × 9' 6".

The other monastery of the Kushāṇa period (in the trenches Z, ZW, XA, ZE, etc.), however, departs from the above normal plan. We could not completely expose it, but the wing we have excavated disclosed striking peculiarities. It consisted of 14 small cells, with four narrow but longish halls in their front, two of them being separated by two small rooms (Fig. 13). Outside these halls to their west there was apparently an open verandah 129' 9" × 2' 9" in dimension. At six different places there were flights of steps to lead to the open verandah. A monastic building of this plan is not so far known.

The earlier evolution of this plan can perhaps be traced in the plan of the Śunga period structure over which it was built. Here we do not come across a long wing of rooms and narrow halls; instead we have blocks of two or three rooms. The block of two rooms has only a verandah in front (Fig. 12, in the trenches ZE<sup>1</sup>, ZE<sup>2</sup> and ZE<sup>3</sup>), but that of three rooms has a hall as well as a verandah, as in the Kushāṇa period (Fig. 12, in the trenches ZW, Z, ZE and ZE<sup>1</sup>). The Kushāṇa period engineers joined these blocks together apparently by interposing a room between them.

The Ārogya-vihāra monastery of the Gupta period has also a peculiar plan. No doubt we could not completely excavate this building; but its one wing which we exposed, about 100 feet in length, shows some remarkable features. The areas to the north and south of the rooms were heavily robbed; so we cannot state with certainty whether there was a verandah in their front. The rooms themselves vary surprisingly in dimensions (Fig. 13, in the trenches D, E and J; Pl. XXII). The easternmost room was probably 14' × 10' in dimension and the succeeding ones were 21' 6" × 10' and 10' 8" × 10'. Can it be that the smaller rooms only were the living rooms and the bigger ones were the halls for prayer or for dinner congregation or for accommodating hospital beds?

It is not possible to have a clear idea of the height of the buildings from this site. The upper parts of the walls have invariably toppled down, so the sealing layers have become layers of brick debris. We have not found any evidence which may prove that the structures were storeyed. But there was ample evidence, in the shape of tiles and nails found on the floor, to show that these structures were roofed with baked clay tiles. No traces of any doors or windows were found in this or other sites.

We could expose only a very small portion of the monastic structure of the fifth period, but it also shows unusual features. Here we discovered a big room,  $18' \times 12' 6''$  in dimension and to its west on a surface  $10' 5''$  lower, there were four small rooms. All these rooms were plastered with lime and *surkhi* (brick powder)<sup>1</sup>. It is difficult to say what was the layout of this entire structure.

The main periods in these trenches are described below in the chronological order starting with Period I.

#### *Period I, BEFORE 150 B.C.*

This period is represented in KR IV Z (Fig. 14) by layer 6 which was yellowish soil mixed with fine sand, layer 7 which was greenish soil mixed with fine sand and layer 8 which was light green soil. From the stratum of this period, we had not found any datable material. Only by means of stratigraphy we had put this period to before 150 B.C. Few N.B.P. Ware, and coarse grey ware, usually mixed with red ware, could be assigned to this period.

#### TRENCH XC

In this trench we found a wall of one course of plano-convex bricks along with ordinary bricks running north to south measuring  $12' 6''$  in length. Its northern end was taking a turn towards the east in the corner of the trench. Plano-convex bricks measured  $14' 5''$  in length,  $9''$  in breadth and  $7''$  in height.

To the west of the above wall, a wall of one course made of flat bricks measuring  $3' 4'' \times 1' 75''$  was found. This wall was sealed by layer 6. The foundations for these structures were dug when the top of layer 7 was the walking surface. From the western side of the trench we had found a few silver punch-marked coins. No other datable finds had been found except pottery.

Between pegs I and II a collapsed wall of seven courses with its foundation about  $6' 1''$  below the ground level was found. This was running east to west and measured  $3' 4''$ . It was sealed by the brick concrete foundation of Period II and layer 6.

#### TRENCH N

In this trench we found an irregular wall of five courses  $7' 2''$  below the ground level running east to west. It was sealed by layer 6 which was soil mixed with plenty of brickbats and sand. It was resting on layer 7.

#### TRENCH ZE<sup>1</sup>

Between pegs XII and XIII of this trench we found several collapsed plano-convex bricks  $14''$  long,  $7''$  broad and  $5' 5''$  high; they were sealed by the walls of Period II.

#### TRENCH ZE<sup>4</sup>

Between pegs XII and XIII, we found a wall of nine courses measuring  $3'$  in length running south to north towards the north-east corner. The top of this wall was  $6' 5''$  below the ground level.

<sup>1</sup>Dr. B. B. Lal, the Archaeological Chemist, writes— 'The sample of mortar from uppermost structure of Kumrahar IV has been chemically analysed. It has been found to contain a considerable amount of lime and burnt clay. The mortar was therefore composed by mixing lime and *surkhi*'.

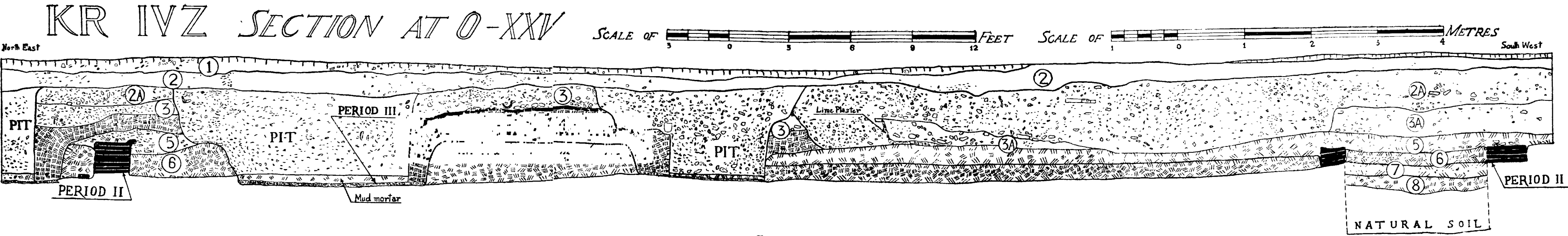


FIG. 14.

These walls were irregular and we could not find any traces of any other wall anywhere to enable us to ascertain the layout of its building.

*Period II, c. 150 B.C. to 100 A.D.*

Period II, which is being described in this section, was luckily not so barren of datable antiquities as Period I. We came across distinctly Śuṅga terracottas; two coins of Lankey Bull type of Kauśāmbī were also found, which are generally ascribed to the Śuṅga period. We can therefore confidently ascribe the structures of this period, which are being described below, to the Period II (Śuṅga period).

Our excavations disclosed a large number of structures of this period. But in most cases their remains were too fragmentary to enable us to draw any conclusion about their layout. It was only in trenches ZE<sup>1</sup>, ZE, Z, ZW, ZW<sup>2</sup> and ZW<sup>3</sup> that the remains enabled us to ascertain the layout of buildings. Here we came across one block of three rooms, with a hall and verandah in their front and two blocks of two rooms, with only a verandah to protect them (Fig. 12).

TRENCHES Z, ZE, ZE<sup>1</sup>, ZW, ZW<sup>2</sup>, AND ZW<sup>3</sup>

This period was represented by layer 5 which was yellowish and greenish soil mixed with fine sand. As this was the sealing layer of the structure of this period, we found plenty of brickbats and tiles from this layer.

#### STRUCTURE OF PERIOD II

*Staircase.*—At a distance of 7' 6" south of the above wall we found an incomplete staircase of four steps measuring 3' 6" × 5'. Each step of this staircase was made of three courses and it was 10" wide. The top of the staircase was 6' 1" below the ground level (Pl. XXI). This staircase was sealed by layer 4. As we had not found any rooms of this building, we could not guess the layout of the staircase; and so we could not say where it led to.

In the trench ZE<sup>1</sup> we found a room measuring 9' 6" × 9'. The southern wall of this room was not completely preserved. Towards the west, adjoining to this room, in the trenches ZE and Z, we found another room measuring 9' 10" × 9'. In the trench Z a third room adjoining to the second towards the west was also traced. It measured 9' 11" × 9'. In the trenches Z, ZE, ZE<sup>1</sup> and ZW, and adjoining to the above three rooms, a narrow hall measuring 30' 6" × 6' 6" was found towards the north.

Adjoining to this narrow hall and towards the north a verandah, 5' 10" wide, was found. It could be traced up to 42' towards the west. To the north of this verandah and practically in front of the middle room, there was a brick-paved rectangular platform measuring 7' 6" × 5'. It might have been used as a step for entering into these rooms.

In the trench ZW<sup>3</sup>, after a gap of 4" west of the above narrow hall room, we found another room measuring 9' 6" × 6' 3". The eastern wall of this room extended 1' 10" more towards the south and the northern wall 9" more towards the west indicating that there were more rooms to the south as well as the west of this room.

*Post-hole.*—In the northern wall of the verandah and at a distance of 1' 1" from the trench ZW<sup>3</sup>, there was a post-hole 7" in diameter at the top and 4' 5" in diameter at the bottom (Fig. 12). It was 4' 5" deep. This post-hole indicated that there were probably

wooden posts for the roof of the verandah. We found a number of broken tiles from the sealing layer of the structure indicating that the roof of this structure was covered with tiles.

In the trenches ZW<sup>3</sup> and ZW<sup>2</sup> there was a small square room towards the north and adjoining to the verandah. The dimensions of this room were 3' × 3'. The purpose of this room is unknown. Probably it might have been used as a store room.

All these structures were sealed by layer 5 and cut into layer 6 which was yellowish soil mixed with fine sand. The building was erected on a well laid foundation. This was done as follows. The lowermost four to five courses of bricks, which were usually laid breadthwise,<sup>1</sup> slightly protruded on either side making a small ledge; on this the next course was laid, the bricks being laid throughout lengthwise. But care was taken to see that the joints of any two consecutive courses did not meet. This method of construction was generally followed in all the structures of this period. All the bricks were fire-baked. Dimensions of the bricks were 1' 6" × 11" × 2". Floors of these rooms were of rammed earth. No trace of any *pucca* floor was found anywhere.

#### TRENCHES ZE<sup>2</sup>, ZE<sup>3</sup> AND ZE<sup>4</sup>

At a distance of about 12' east of the above building and at a depth of about 6' below the present ground level, we found another structure of this period consisting of two rooms and a verandah.

In the trench ZE<sup>2</sup> a wall of 13 courses measuring 8' 4" in length and running north to south was traced. A second wall measuring 4' 9" in length, running east to west, joined the northern end of the first wall at right angle. Parallel to the wall running north to south, another wall of five courses, measuring 3' 5" in length, was found in the trench, ZE<sup>3</sup>. If all the walls are produced and joined together we find a verandah of 19' 6" × 6' in dimensions.

In the south-west corner of the trench ZE<sup>4</sup> and parallel to the wall of ZE<sup>3</sup> we came across the traces of a wall running north to south and measuring 3' in length. Another wall of four courses, measuring 2' 4" and running east to west joined the northern end of the earlier wall at right angles. If all these fragments of walls are produced and joined together, we get a room measuring 9' 8" × 8' 6" in dimensions.

If walls found in the trenches ZE<sup>3</sup> and ZE<sup>4</sup> are produced towards the north and the wall of ZE<sup>2</sup> is produced towards the east, they will meet at right angle and thus form a room adjoining to the above one measuring 8' 4" × 8' 6" in dimensions.

There was clear evidence that these walls had been breached by the builders of structures while digging a foundation trench of Period III. In these trenches sometimes merely brick concrete were found and sometimes brick concrete superimposed by a wall of Period III (See Fig. 12). All the walls of this structure were resting on layer 7, cut into layer 6 and sealed by layer 4 or 5. Except the partition wall of the rooms, everywhere the bricks were used breadthwise. In the partition wall the bricks were used lengthwise.

#### TRENCHES ZE, ZE<sup>1</sup>, ZE<sup>2</sup> AND ZE<sup>3</sup>

At a distance of about 3' 3" towards the north of the above structure another structure of two rooms with a verandah was found.

<sup>1</sup>This method was, however, not followed in the northern wall of the verandah, where the bricks were laid lengthwise. They were also laid in the same manner in all the four walls of the room of the trench ZW<sup>3</sup>.

In the trench ZE<sup>1</sup> we came across a wall of 11 courses, 6' in length, running north to south; the same wall was traced in the trench ZE<sup>2</sup> measuring 13' running north to south and taking a turn towards east.

In ZE<sup>2</sup> we found a wall of 4½' running towards south; the same wall was further traced in the trench ZE<sup>3</sup> and, the baulk between ZE<sup>2</sup> and ZE<sup>3</sup> measuring 8' 6". Traces were found showing that the wall turned towards the north. The eastern wall of the whole block is however robbed.

In the trench ZE the northern end of the wall, 3' 8" in length, took a turn towards east. This wall was further traced up to a length of 7' 9" in the trenches ZE<sup>1</sup> and ZE<sup>2</sup>, when it took a turn towards the south and was traced up to a length of 5' 8" in the trench ZE<sup>1</sup> and to a length of 1' 3" in the trench ZE<sup>2</sup>. At this point another wall measuring 7' 3" in length, running east to west, joined it at right angle, thus forming the partition wall of two rooms. The dimensions of the northern and southern rooms were 9' 9" × 9' and 9' 10" × 9' respectively (Fig. 12). The dimensions of the adjoining verandah were 20' 6" × 6' 6". All these walls were sealed by layer 5, cut into layer 6 and were resting on layer 7. All the bricks were fire-baked. In size they are fairly large, being 1' 5" × 11' 5" × 2".

*Post-holes.*—In the western wall and the partition wall of the southern room, we found two post-holes, about 6" in diameter (Fig. 12). These holes might have been used for wooden posts.

### *Height and Roof of the Buildings*

It is not possible to have an idea of the full height of the buildings and the individual rooms in them. The upper parts of the walls have invariably toppled down creating a layer of brick debris. It appears certain, however, that the houses were not storeyed. But there was ample evidence, in the shape of nails and charred tiles which littered the floor, to indicate that these rooms were roofed with baked clay tiles. The tiles were rectangular, their dimensions being 9' 75" × 5' 5" (Pl. LXXV). They were probably kept in position by inserting the nails in the holes which were at the top and then fixing them into the wooden rafters covering the roof.

### TRENCHES P AND Z

In the trench P and Z between pegs O and IV we found a wall of eight courses, running east to west and measuring 7' in length. This wall was about 5' 7" below the ground level. No offset to this wall was traced. Bricks were used breadthwise. We could not trace any wall parallel to or meeting this wall in any of the trenches, and so we could not know the plan of this structure.

### *Sub-period of Period II*

At a depth of about 4' 8" a wall of four courses measuring 7' in length and running south to north was found. After a gap of 3' 6", it was again traced in the trench Z measuring 3' 3". At this point it took a turn towards the east up to a length of 4". Bricks were of the usual size, viz. 18" × 11" × 2". Only this wall was found to be sealing the wall described above; so we could date this wall as a sub-period of the earlier wall. No datable material was found. This wall, which sealed the earlier wall and the layer 6, was itself sealed by a huge pit which in turn was sealed by humus. Bricks were not bonded.



## TRENCH ZW

In this trench we found two courses of a wall at a depth of 5'1" running north to south, measuring 5'3" in length. This wall was sealed by a huge pit and was resting on layer 6. So it stratigraphically belonged to the sub-period of the Period II. From here also we did not find any datable finds by which we could date them more precisely. This wall had been partly robbed towards the eastern face by the builders of the Period III.

In the eastern section of this trench, 5'5½" below the ground level another wall of eight courses, 6'9" in length, was found. Another wall, 7'9" in length running east to west, joined the northern end of the earlier wall at right angle. They were bonded. The wall was sealed by a huge pit and was resting on layer 7. It is interesting to note that the walls of Period II were resting on layer 7 whereas their sub-period walls were resting on layer 6 or on the wall of Period II themselves. The sub-period walls cut into layer 5.

## TRENCH Q

At a depth of about 5'10" we came across a wall of five courses measuring 6'6" in length and running east to west. Another wall, 1'6" in length and running north to south, joined the western end of the earlier wall at right angle. They were bonded. These walls were very much dilapidated and we could not find any walls parallel to these to enable us to find the layout of these buildings. This wall was sealed by a huge pit and was resting on layer 7. The average dimensions of bricks were 1'5" × 11.5" × 2".

*Sub-period of Period II*

A wall measuring 2'8" and of two courses was found. It was sealed by a huge pit and was resting on layer 6 and on the earlier wall of Period II. It was very much dilapidated.

These walls were probably fragments of a very big structure, but as the area was very much disturbed, it is difficult to date it. There is no doubt that these walls are earlier than the buildings of Period III but are later than the buildings of Period II. So we have put them in a sub-period of the Period II.

## TRENCH XA

*Sub-period of Period II*

Towards the western side of this trench, we came across a collapsed wall of nine courses measuring 15'9" in length and about 4'8" below the ground level. This wall was running north to south and taking a turn at right angle towards the west at its northern end. Its length was 1'8". As this wall was resting on layer 6, cut into layer 5 and sealed by layer 4, it had been stratigraphically assigned to the sub-period II. From the sealing layer of this wall we had found a number of tiles indicating that the roof was covered with tiles. The bricks of the wall were laid lengthwise.

## TRENCH XC

Between pegs XI and XIV of this trench a wall measuring 5'4" in length and about 4'5" below the ground level was found in this trench. We could not trace any parallel wall which might be connected with this structure. However, from the stratigraphy associated with it, it has been assigned to a sub-period of Period II.

At a distance of 1'4" towards the south we came across a wall measuring 3'2" running north to south. It was in a very flimsy and dilapidated condition. Another wall

## EXCAVATIONS IN KR IV

of three courses, measuring 3' 2" joined the southern end of the above wall at right angle. They were bonded and so belonged to the same structure and were of this period.

### TRENCHES XD AND THE BAULK BETWEEN XC - XD

A wall of one course measuring 13' 4" in length and running east to west was traced here. There was a gap of about 4' 6" due to the cutting of the foundation trench of the wall of Period III. This wall was 5' 2½" below the ground level. No other wall connected with this structure could be traced anywhere near to it.

#### *Sub-period of Period II*

In the centre of the trench XD a wall of one course running north to south and measuring 6' in length was found. It was 4' 7" below the ground level. The southern end of this wall was taking a turn towards the east to a length of 1' 4". This wall was resting on the wall of Period II described above. So we put it to the sub-period.

At a distance of about 5' south of the earlier wall of Period II and 4' 10½" below the ground level, a wall of one course measuring 4' 6" × 3" was found. This wall was probably running east to west; both its ends had been robbed by the builders of the wall of Period III.

### TRENCHES J, K AND C:

*Covered Drain.*—Towards the eastern section and between the pegs VII and X of the trench K, we came across a covered drain of eleven courses. It was also running in the trenches J and C towards the south. It was traced up to 37 ft. in length. This drain was sealed by layer 8 and was resting on layer 9 (Pl. XXII). One course of bricks was laid at the bottom breadthwise; then two parallel walls of nine courses were laid at a distance of 10", over which one course of bricks was laid breadthwise. So the depth of the drain was 2 ft. Dimensions of bricks used were 1' 4" × 10½" × 2".

### TRENCH XE, XE<sup>2</sup>

From the trench X towards the east, there was a great slope. The section of the trench XB at VIII will show that in a distance of 6' there was a slope of about 2' (Pl. XXIII). So we found the structures of the Period II in the trenches described below about 11' below the ground level.

In the trench XE between the pegs VII and VIII we traced a wall running north to south about 11' 7" below the ground level. This wall was further traced in the trenches XE<sup>2</sup> and XE<sup>4</sup>. Its measurement was 33' in length. The southern end of this wall took a turn towards east in the trench XE measuring 1' 4" in length. Bricks of the lowermost seven courses of the wall slightly protruded outside and inside about 3' to 4" making a ledge. On this ledge, subsequent courses were laid. Brickbats and half bricks were used in the wall. This wall was robbed here and there by brick robbers. It was sealed by layer 7 and was resting on layer 8 and was 11' 7" below the ground level.

In the trench XE between pegs XIII and XV we found another wall of seven courses running east to west measuring 5' 7" in length. In the northern section, it took a turn towards the south and was preserved only to a length of 9". This turning is almost parallel to the above wall found between pegs VII and VIII. Northern face of this wall was robbed. It was made of brickbats.

#### *Sub-period of Period II*

In this trench we found another wall of five courses running east to west and measuring 22' 4" in length. It was found 11' 4" below the ground level. No offset to

this wall had been traced. This wall was sealed by layer 6 and was resting on layer 7. We could not trace anywhere any parallel or connected wall of this building. Stratigraphically this will be a sub-period of Period II.

#### *Another sub-period of Period II*

In the trench XE between pegs O and I, we found a wall of seven courses, about 10'4" below the ground level, running east to west and measuring about 23'4" in length. There were several gaps which had been formed by the brick robbers of the later period. Between the peg O and A, there was a gap of about 2' 10". Between pegs A and F there was another gap measuring 10' 2" in length. The southern face of this wall was very irregular. Brickbats had been used in this wall.

Parallel to the above wall, we came across another wall in XE<sup>3</sup> measuring 7' 5" running east to west. This wall was again traced in the trench XE<sup>5</sup> measuring 8' 8" in length. After a gap of 2'3" the wall was further traced towards the east measuring 5'10" in length. After that it took a turn towards north to a length of 1'6". This wall was again traced after a gap of 2'10". It was taking a turn towards the north to a length of 4'. If we take it to be a room, it would be 7' wide. These walls were in a very flimsy and dilapidated condition.

#### TRENCH XE<sup>5</sup>

On the northern section of this trench we found a wall of ten courses running north to south; it was 5'4" in length.

#### *Period III, c. 100 TO 300 A.D. (Figs. 13 and 14)*

The dating of this period has become fairly easy and certain on account of the finds. We came across a few coins of Kanishka and Huvishka as well as some terracottas, showing the typical Kushāṇa peaked headdress. This period will therefore be between c. 100 A.D. to 300 A.D.

At this site we found two monastic types. The first type was the one with which we are usually familiar. It had a courtyard in the centre and probably rooms on all the four sides, though we could find their traces on three sides only. The second type of monastery consisted of 14 small cells with four small longish halls in their front, two of them being separated by two small rooms. Outside these halls to their west there was apparently open verandah with small flights of steps at six different places, two of which are shown in Pl. XVIII.

#### MONASTERY I

##### TRENCHES ZE<sup>4</sup>, ZE<sup>3</sup>, ZE<sup>2</sup>, ZE<sup>1</sup>, P, Y, Q, X AND XA<sup>1</sup>

In the above trenches we came across a brick concrete foundation of 1½" in thickness at a depth of 5' 10½" to 6' below the ground level; its dimensions were 129'9" × 4'. It was resting on layer 7 and was sealed by mud mortar about 6" in thickness (see Pl. XIX). Layers 5 and 6 were cut into for foundation trench. When the top of layer 5 was the walking surface, this structure was built. The wall which was built over it was robbed except in the trench Z, where we found it in eleven courses measuring 21'8" × 4'. Parallel to this brick concrete foundation and at a distance of 8' towards its west, we came across another brick concrete foundation of the same building in the trenches ZE<sup>3</sup>, ZE<sup>2</sup>, ZE<sup>1</sup>, ZE, Z, ZW and XC; it was of the same length, its width being 4'6". Nowhere we found any wall over it except in the trench ZW, where we found a wall measuring 5'4" in length.

On both the faces of this wall, the brick concrete measuring 7" to 9" was left. These two parallel brick concrete foundations were divided by 15 similar foundations joining them at right angle and thus forming 14 small cells. These partition brick concrete foundations varied from 2' 4" to 3' 10" in breadth. At four places brick walls were found. In trench ZE<sup>4</sup> the wall measured 5' 4" in length, in trench ZE<sup>1</sup> it measured 2' 7" in length, in trench X it measured 1' in length and in trench XA<sup>1</sup> it measured 2' 3" in length. So the measurement of these 14 rooms from north to south were: 6' 9" × 8', 6' 3" × 8', 5' 3" × 8', 7' 6" × 8', 5' 5" × 8', 5' 8" × 8', 5' 8" × 8', 7' 3" × 8', 5' 3" × 8', 4' 9" × 8', 6' 5" × 8', 6' × 8', 6' 3" × 8' and 6' × 8'.

The rooms are rather small, but they can accommodate one individual.

Parallel to the above two brick concrete foundations we came across another brick concrete foundation in the trenches ZE<sup>2</sup>, ZE<sup>1</sup>, ZE, Z, ZW, ZW<sup>1</sup>, XC and XD further west at a distance of 5' to 6' and measuring 129' 9" in length and 3' 5" to 4' 5" in breadth. No wall was found anywhere over it except in two places. One of these walls in the trench XD measured 29' 6" in length. This wall left an offset of the brick concrete 9" to 18" on the inner side and 4" on the outer side of the wall. The second wall was in the trench ZW, measuring 4' 7" in length, and it had an offset of brick concrete foundation of 1' on the inside only.

The second and third brick concrete foundations were partitioned by seven brick concrete foundations thus forming six rooms measuring 23' 10" × 5', 7' 6" × 5', 21' 6" × 5', 24' 6" × 6', 6' 6" × 6' and 24' 6" × 6' respectively from the north. Thus there were four small longish halls in front of the 14 cells. Two of these longish halls were separated by two small rooms.

Pl. XIX shows part of two of these rooms with the hall in their front and brick concrete foundations.

*Open verandah.*—Leaving a gap of about 10" there was another parallel wall at a depth of 3' 1" to 3' 10" below the ground level; it ran north to south and measured about 129' in length. This wall was taking a turn at right angle at both the ends and meeting another wall running parallel to the first brick concrete foundation after a gap of 1" to 2". So we found that this wall was going around the above structure. This wall was plastered with lime about 1" in thickness. The plastered wall was not preserved everywhere but the line of the lime plaster indicated the direction of the wall. In the trenches Z, ZW and ZW<sup>1</sup> this plastered wall was preserved up to a length of 39' and in the trench XD it was only 4' 10" in length. No traces of this wall were found to the north and south of the structure except the lime plaster. In the trenches ZE<sup>4</sup> and ZE<sup>3</sup> it measured 24'; in the trenches ZE<sup>2</sup>, ZE<sup>1</sup>, P and Y it measured 39' and in the trench XA it measured 9' 4".

Inner face of this wall was irregular everywhere. To the west of the structure there was an open verandah 129' 9" × 2' 9".

The plan of this wing reminds us of the three roomed blocks of the Period II, having a longish hall in their front with an open verandah outside. Here we have got four blocks of three rooms with a longish hall and a verandah in their front. But the first and the second block, as well as the third and fourth are integrated into a unit by the interposition

<sup>1</sup>As we had not found the walls of these rooms, their measurements were taken from the brick concrete foundations.

of one room between the longish halls and also of one room between the two sets of rooms.<sup>1</sup> Why the second and third blocks were not similarly integrated cannot be explained.

The building was erected on a well laid foundation. This was done as follows. All the walls were erected on a foundation of brick concrete laid in sticky brownish clay. Over it, there was mortar of clay, about 3" to 5.5" in thickness, supporting the wall above<sup>2</sup> (Pl. XX). The wall was made entirely of baked bricks. The joint of two bricks arranged end to end was placed over the middle of the brick underneath it; it itself was made to lie under the middle of the brick above it. In size they were fairly large; the average brick measured about 17" × 11.5" × 2.5". No traces of windows and doors were found, as is the case with other monastic structures.

*Floor.*—We got some indications about the nature of the floor of this structure in the remains preserved in the second small longish hall from the south<sup>3</sup> (Pl. XVIII). Here we came across one patch of paved brick floor, plastered with lime. It is not unlikely that the entire building had such a floor. This floor was sealed by layer 2 and was resting on layer 4, which was a filling of blue compact clay. The average measurement of the bricks were 17" × 11.5" × 2.5".

*Entrances to the building.*—Excavations disclosed the traces of four small flights of steps two of which can be seen in Pl. XVIII. By piecing together the evidence supplied by them, we find that the staircases in front of the longish halls<sup>4</sup> were 5' 10" × 4' with four steps each; steps were 1' wide and were plastered with lime. The staircase in front of the small room<sup>5</sup> between the two halls was naturally smaller; it measured 5' 6" × 2' 9". It is very likely that there were two more flights of steps, one leading to the block of small rooms to the north and the other in front of the second small longish hall from the north; but we could not get their traces.

To the south of the flight of steps in the trench ZW, at a depth of 3' 10", we found traces of brick pavements; whether they belonged to a big courtyard cannot be stated.

At a distance of 69' from the north-east corner of the above monastic building we came across a collapsed staircase. It was preserved only 4' 6" in breadth and 7' 6" in length. There were only six steps, each being 9" wide (Pl. XXI). This staircase collapsed towards the east. As we had found numerous lime pieces sealing this staircase, it may be presumed that it was also plastered with lime. The section on XB at VIII will show (Pl. XXIII) that there was a very big slope ascending to the west; the staircase led to the ground and monastery above the slope.

<sup>1</sup>There are some indications that in Period II also such an amalgamation was attempted (see *ante* p. 43), but the evidence is too fragmentary to enable us to get a complete picture of the integrated building.

<sup>2</sup>In the trench ZW we found that the brick concrete foundation had been put twice and so its thickness became 3", whereas in this trench at other places it varied from 1" to 2".

<sup>3</sup>This corresponds to trenches Z, ZE and the baulk between Z and ZW.

<sup>4</sup>These were in trenches XD, ZW and Z.

<sup>5</sup>This was in trench Z.

## MONASTERY II

At a distance of about 57' from the north-east corner of the above monastery we came across a quadrangular monastery of the usual nature, i.e. courtyard with rooms on all the four sides of it. As already stated, the section on trench XB at VIII will show (Pl. XXIII) that there was a considerable slope descending towards the east.

## TRENCH XE

In the south-east corner of the trench XE, we came across a wall of sixteen courses measuring  $3' 3'' \times 3' 1''$ , running east to west. It was about  $10' 5' 5''$  below surface. The concrete foundations of this wall were further traced towards the west in the trench L between pegs III and VI, in trench K between pegs XIII and XVIII and in trench J between pegs VIII and XIV. The concrete foundations of this wall was traced up to a length of 3' towards the east. But it certainly extended  $29' 6''$  further east, as indicated by brick concrete foundations of another wall running north to south and at right angle to the first wall. So the total length of the first wall was 104' (Fig. 13).

TRENCHES XE, ZE<sup>1</sup>, XE<sup>2</sup>, XE<sup>3</sup> AND XE<sup>5</sup>

Parallel to this long wall was another of the same length and at a distance of  $9' 6''$  to its north. The traces of this wall or of its brick concrete foundations were found in the trenches XE<sup>5</sup>, XE<sup>3</sup>, XE<sup>2</sup>, XE<sup>1</sup> and XE. The wall itself has been almost entirely robbed; only very small portions of nine courses being found in the trench XE between pegs O and II and in the south-east corner of the trench XE<sup>2</sup> between pegs O and A.

These two parallel walls and the brick concrete foundations were divided by nine brick concrete foundations which were meeting them at right angle. The width of these brick concrete partitions varied from  $2' 2''$  to  $3' 6''$ . Thus eight rooms were formed. The dimensions of these rooms beginning from the west were  $15' \times 9' 6''$ ;  $9' 6'' \times 7'$ ,  $9' 6'' \times 8'$ ,  $9' 6'' \times 8' 6''$ ,  $9' 6'' \times 9'$ ,  $9' 6'' \times 9'$ ,  $9' \times 9'$  and  $15' \times 9' 6''$ .

*Covered Drain.*—From the smallest room, i.e. second from the west, a drain measuring 34' in length running north to south was found. Its width and depth were 8" each. The entire drain was covered by bricks laid lengthwise. However, at a distance of  $16' 2''$  from the southern wall of the room, we found one covering brick laid breadthwise over the drain, probably intended for facilitating its cleaning. This drain discharged in a huge pit. Large and thick bricks were manufactured for this drain, their average dimensions being  $18'' \times 10'' \times 3' 5''$ . This drain suggests that the small room may have been a bath room or perhaps a kitchen. It may be added that the drain of the Period II (*ante*, 47) is almost below this drain (Fig. 15).

The above two parallel brick concrete foundations were taking turn towards the north. In the trenches XE, XE<sup>4</sup>, XE<sup>5</sup> and XE<sup>6</sup> these walls were traced in a very dilapidated condition. They were 10' apart. The length of the eastern wall was  $42' 10''$  and of the western wall 42'. These two walls were divided by three concrete foundations at right angle running east to west, thus forming three complete and one incomplete room; the complete rooms measure  $10' \times 9' 5'$  each.

The eastern ends of the long parallel walls were also taking a turn towards north as suggested by the brick concrete foundations which were traced up to a length of  $17' 2''$  and  $18' 2''$  respectively. These walls were separated by a distance of 10'. We could trace only one complete room measuring  $10' \times 9' 5'$  and another incomplete room.

*Verandah.*—To the north of the wing of eight rooms and at a distance of 9½' we found a wall in some places and brick concrete foundations in others in the trenches XE<sup>2</sup>, XE<sup>3</sup>, XE<sup>4</sup> and XE<sup>6</sup>. This wall was running towards the north-west and north-east also. So it is clear that there was a verandah on the three sides of the courtyard.<sup>1</sup> Four sections of the verandah wall were traced 9' 5" below the ground level; one between pegs IV and VI of the trench XE<sup>3</sup> consisting of a wall of four courses, the second between pegs IV and VIII consisting of a wall of six courses in the trench XE<sup>2</sup> measuring 10' 11", the third consisting of a wall of 31 courses between pegs IX and XI of the trench XE<sup>4</sup> and the fourth one between pegs XI and XII of the trench XE<sup>6</sup> of one course only measuring 3' 9".

The section at VIII of the trench XB (Pl. XXIII) would show that the layer 3 was the floor of this monastery. Layer 4 was the filling layer for raising the plinth of the building. These walls were resting on the layer 6. The foundations for these walls were excavated when the top of layer 5 was the walking surface.

*Period IV, c. 300 TO 450 A.D.*

The structures of this period were found only over a portion of the site IV, represented by trenches C to H, J, K and N. It is interesting to point out that no structures of Periods I, II and III were found below the present structure of Period IV. Also there were no traces of the structures of Period IV over the remains of the structures of Periods I, II and III described in the last sections. The bricks used for the monastic structure of Period IV are mostly brickbats; it is not unlikely that they were taken from the structures of Periods II and III, when they had become dilapidated.

The structure of Period IV was known in contemporary times as the *Ārogya-vihāra*, Hospital-cum-Monastery, as shown by contemporary evidence. What we could expose of its plan showed that there was one wing of apartments of unequal dimensions; the easternmost apartment approximately measured 20' × 10', and those further west were of the dimension of 21' 6" × 10', 10' 8" × 10' and 21' × 10'.

#### TRENCHES C TO H, J, K AND N

In these trenches we found a structure of this period resting on layer 5a, consisting of loose dirty soil mixed with potsherds and brickbats. Layer 5 was greenish compact clay. It was a filling for levelling the floor of this structure.

*Rooms.*—In trenches J and K we came across a room 10' wide; its length could not be ascertained, as only three of its walls had been preserved, the fourth one having been robbed (Fig. 12). The southern wall of the room had been traced up to a length of 20' and the northern wall up to a length of 12' 3" towards the east. After this, these walls had been robbed. At some places the wall had only one course, at others as many as 16.

In Trenches J, F and C a complete big room of the same structure was found; its measurement was 21' 6" × 10'.

To the west of this room, we found a small room measuring 10' 8" × 10' in trenches C, D and E. A big room adjoining the above small room was traced in trenches D, G and

<sup>1</sup> It may have existed on the fourth side also, but we could not excavate there, as it was an earlier excavated area.

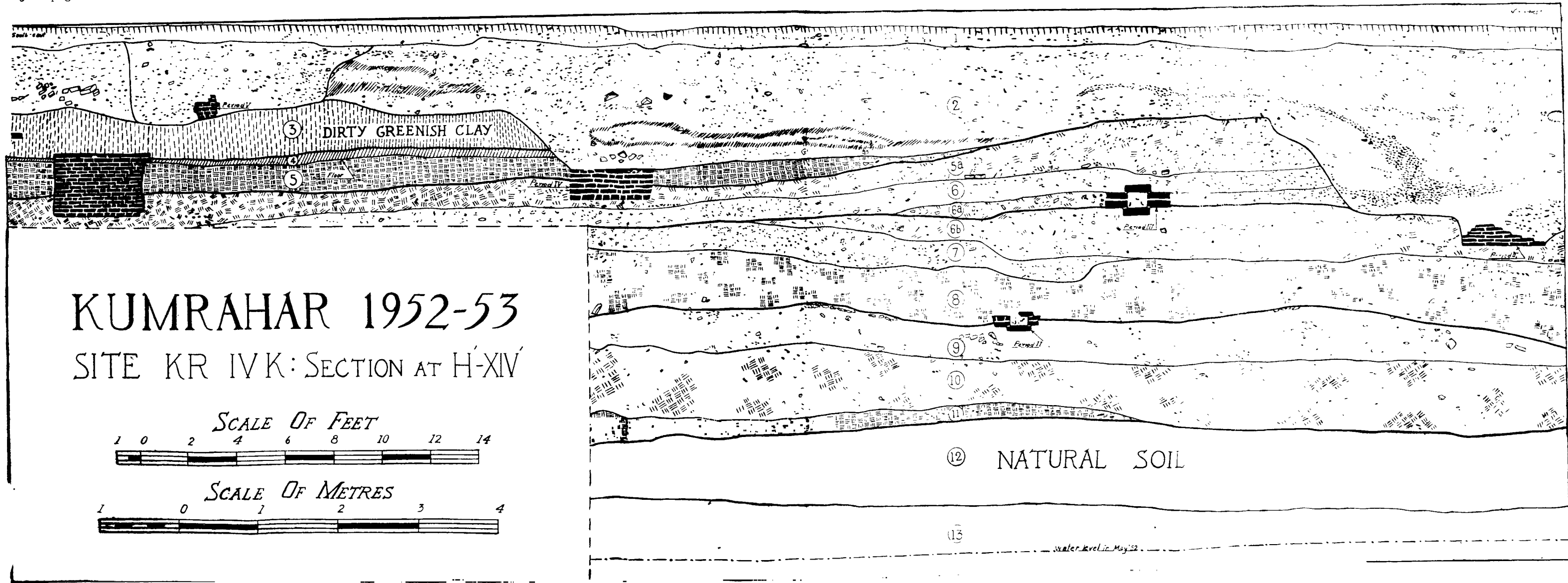


FIG. 15.



H but its western and southern walls were robbed (Pl. XXII). Only few brickbats of the western wall had been preserved, and they enable us to determine the dimensions of room as  $21' 6'' \times 10'$ .

The northern wall was further traced up to a length of  $5' 9''$  in trenches G and N after which it had been robbed.

*Conclusion.*—To sum up, we found two complete big rooms measuring  $21' 6'' \times 10'$  each and one small room measuring  $10' 8'' \times 10'$  (Fig. 13). As the southern and northern walls extended further both to the east and the west, there must have been more rooms in this wing; but as we could not find any traces of the partition walls, their measurements could not be ascertained.

The width of the walls of this structure was usually  $2' 8''$ . The building was erected on a well laid foundation. All the bricks were fire-baked. Generally brickbats were used; entire bricks were few. The average brick measured  $15'' \times 10'' \times 2''$ . We could get no traces of windows and doors, as we found only few courses of the walls above the floor. The joint of two bricks arranged end to end was placed over the middle of the brick underneath; later this joint came under the middle of the bricks above. Ordinarily clay mortar was used.

*Floor.*—A hard floor consisting of brick concrete was found resting on the above layer 5. The thickness of this floor was not regular. It was  $3''$  to  $6''$  in thickness and was about  $5' 4''$  below the present ground level. The floor of the plinth of the rooms was fairly high, there being thirteen courses of the foundation wall below it.

In the debris, we had found several big terracottas and carved bricks belonging to this period; probably they decorated the walls of this building. Besides these we found several sealings and inscribed sherds. The most important sealing is the one of *Ārogyavihāra* with the legend *Śrī-ārogyavihāre bhikshusaṃghasya* (Frontispiece) and a potsherd with the inscription (*Dha*)*nvantare* Pl. XXXIV B, No. 2. We also found several carved bricks with different designs from the debris of the spoil pits. Probably these carved bricks (Pl. LXXVI) were forming a part of the cornice of the building.

This structure of the Period IV was thus a monastic one.

*Period V, c. 450 to 600 A.D.*

TRENCHES C, D, G AND H

In trenches C, D, G and H at a depth of about  $3' 11''$  we found the floor of a room resting on layer 3 which was greenish and sealed by layer 2b which was pittish and full of brick concrete and *surkhi*. The dimensions of the room were  $18' \times 12' 6''$  (Fig. 13). The room was plastered by *surkhi* and lime. The thickness of *surkhi* and lime was  $1''$  to  $2''$ . The walls of the room were made of brickbats and five to seven courses were preserved. Not a single complete brick was used. The breadth of the bricks was  $10''$  to  $10.5''$ . The thickness of the wall was irregular. It was interesting to note that the foundation wall of this structure consisted of only two courses of bricks.

TRENCHES H, R, S AND T

At a distance of  $4' 6''$  towards the west of the above room, we found four small rooms in trenches H, R, S and T, two of which are shown in Pl. XXIV; all the four rooms are shown in Fig. 13. The floor level of these rooms was  $10.5''$  lower than the floor level of the room described above. These rooms were built over the debris of a spoil

pit (SH) which had been formed by brick robbers for robbing the walls of Period IV i.e. c. 300 to 450 A.D. The pit (SH) was later than layer 3. But the sealing layer of the pit (SH) and layer 3 was layer 2c, which was striking against both these two structures.

The walls of these rooms, like the room described above, were plastered inside only with *surkhi* which was 1" to 2" in thickness. Walls of these rooms were made of brickbats only.

The dimensions of the rooms in trenches H and R were 8'  $\times$  4' 6" (northern room) and 8'  $\times$  4' 9" (southern room); the measurement of the room in trenches R and S was 10' 6.5"  $\times$  6'; the measurement of the room in trenches R, S and T was 10' 6.5"  $\times$  5' 10". The thickness of the wall between two rooms was 10" to 13.5".

These rooms were very small and probably they were the cells of the monks in the later period.

We found only five rooms of this period. Whether they formed part of a bigger building or whether they stood alone by themselves, it is difficult to say. Nor is it possible to have any idea of the height of these structures.

## CONCLUSION

We got no structure of any period later than Period V (c. 450 to 600 A.D.) in any portion of KR IV area. This would suggest that it was abandoned after c. 600 A.D. This conclusion is confirmed by the account of Yuan Chwang, which shows how Pāṭaliputra was in ruins in c. 635 A.D.

The earliest remains and structures of KR IV undoubtedly go back to a period earlier than c. 150 B.C. They are very flimsy and show no affinity whatsoever to Mauryan structures and antiquities. It is, therefore, clear that during the period when the Mauryan Pillared Hall was in use, there were no structures of an imposing nature in this area, as was also the case with KR I, KR II and KR III.

## I. KR V (Figs. 16 and 17; Pls. XXV to XXIX)

To the east of the Mauryan Pillared Hall, we temporarily acquired a plot measuring .58 acres. Part of this land was a small mound and part was plain. We laid out seven trenches viz. A, B, C, D, E, F and G in the plain land and three trenches viz. H, J and K on the mound (Fig. 2). These trenches were of different measurements. The purpose of the excavation in this area was to find out whether the Pillared Hall extended further to the east or whether there were any structures contemporary with it in that direction. We also wanted to know whether there were any more wooden platforms further to the east of those unearthed by Spooner.

In the plain part of this area we discovered an interesting structure which consisted of four long parallel walls running north to south, and four other parallel walls meeting the former at right angle at their southern extremity (Fig. 17). The section on O and Ó indicates that there was a big slope towards the east (Fig. 16). Layer 3 which seals this slope does not indicate any sign of habitation. It was, therefore, natural that there should have been flights of steps to lead a visitor down the structure. We found one such flight of steps at the eastern extremity of the walls running east to west, and two others, one being very near the northern extremity of the walls running from north to south and the other at a distance of 31' from the former (Fig. 17).

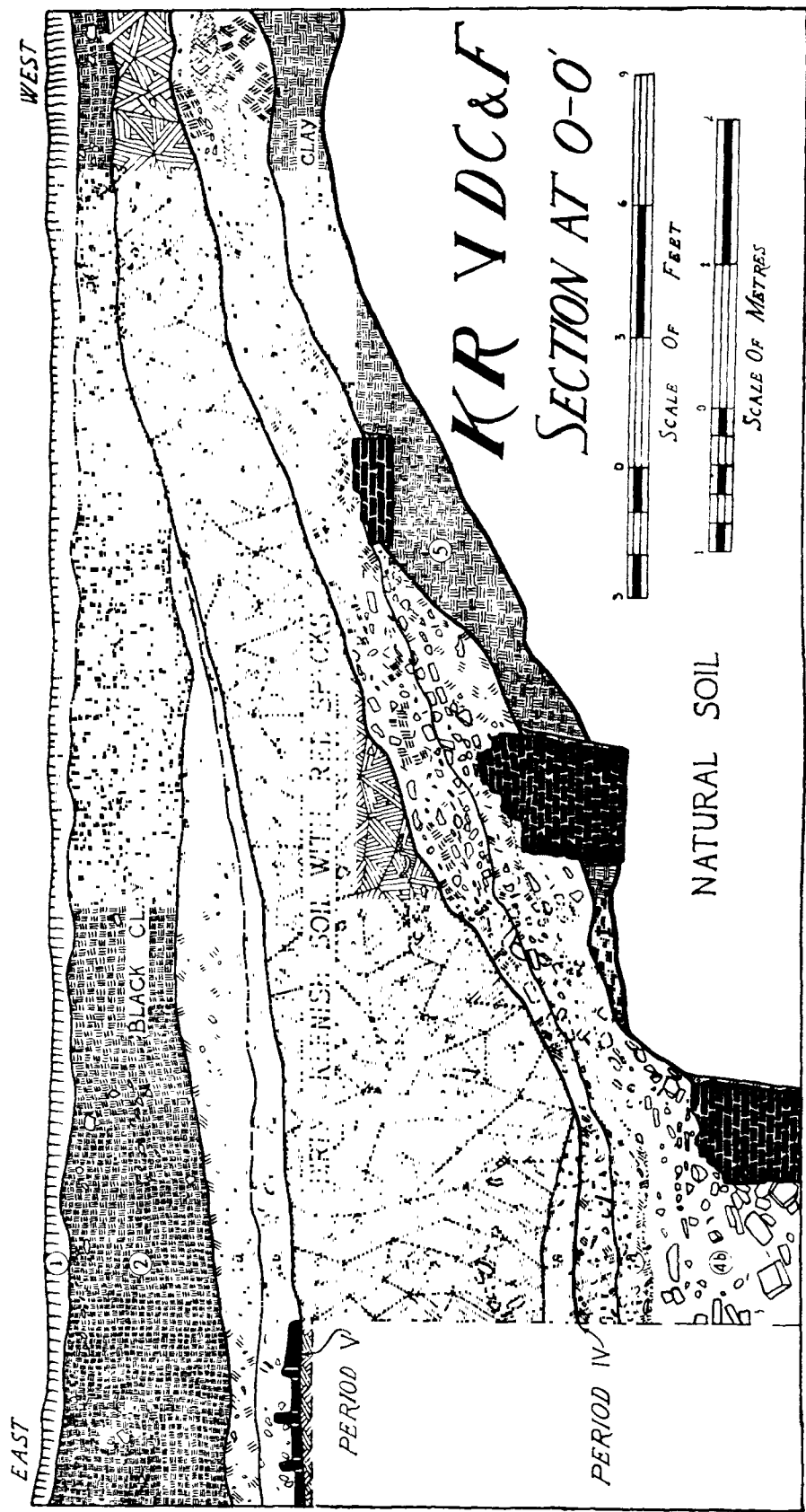


Fig. 16.

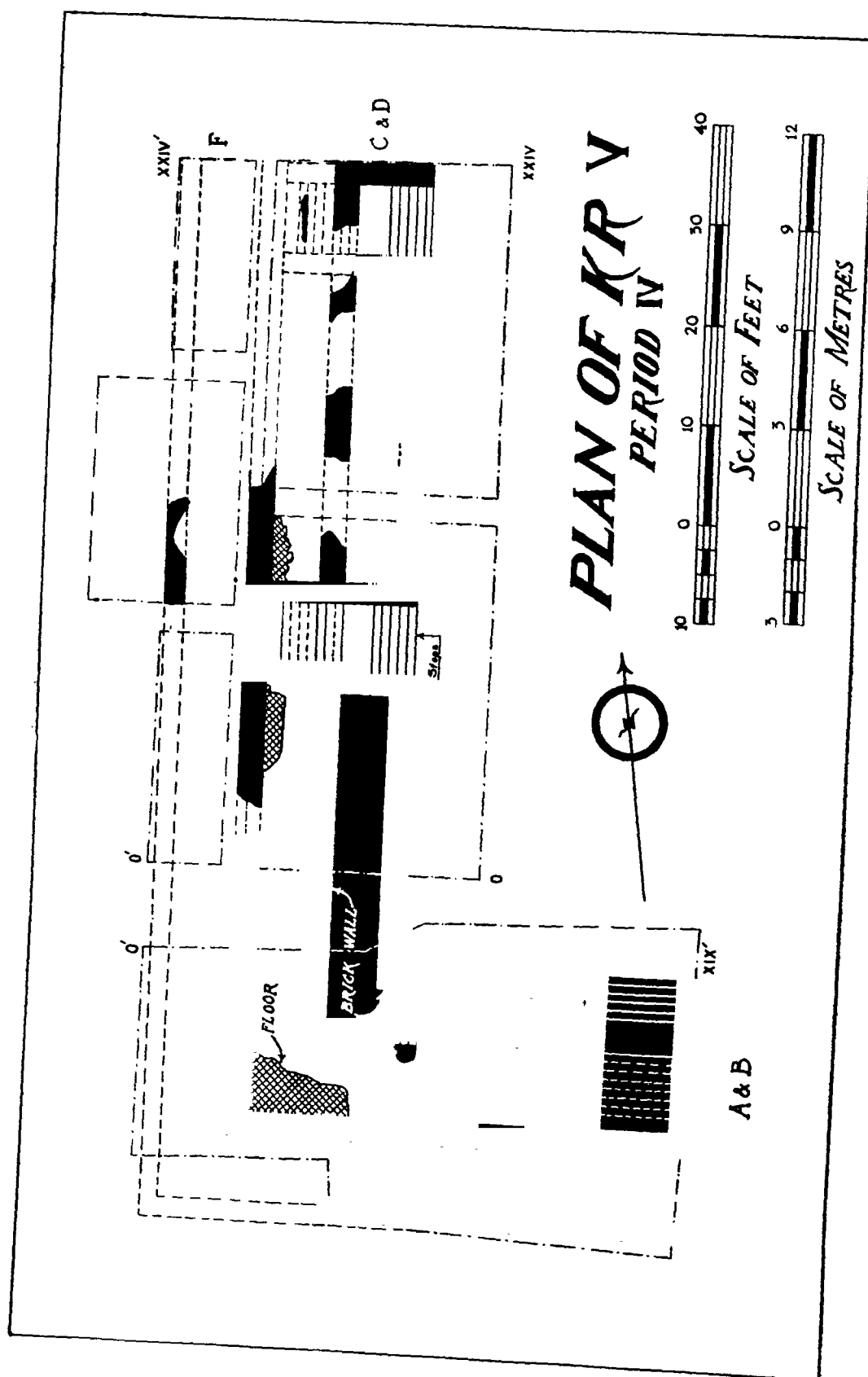


FIG. 17.

## TRENCHES A, B, C, D AND F

In the above trenches (as also in trenches E and G), we did not find any structural layers of Periods I, II or III. Here we found only structures of Period IV and V i.e. c. 300 to 600 A.D. It is, therefore, quite clear that there were no buildings of the Mauryan Period in these trenches. These structures were built after the destruction of the Pillared Hall. It is possible that though we did not discover any structures contemporary with the Pillared Hall, there might have been a *kachcha* tank or a canal here.

*Period IV, c. 300 to 450 A.D.*

The outermost wall was extremely fragmentary and it could be traced only in trenches A and F, usually at a depth of 3' 4". In Trench F it was running from north to south and was resting on the natural soil. It was a wall of ten courses but could be traced to a length of 10' 8" only (Fig. 17). The wall which met this wall at right angle could be traced only in the trench A, where it consisted of twelve courses and was seen running to a length of 15' 5" and resting on the natural soil (Fig. 17). As far as revealed by the excavations, the length of the outermost wall from north to south was 104' and from east to west was 58'. It might have extended further to the north and the east.

The next set of two walls meeting at right angle could be traced for a longer distance. They were at a distance of 6' 5" from the first set of walls. These walls were traced in trenches A and C respectively. The length of the wall (in trench A) running east to west was 48' 2" and the length of the wall (in trench C) running south to north at right angle to the former was 65' 2". These walls had one to twenty-one courses of bricks; they rested on the natural soil and were sealed by layer 3.

The next set of two walls, meeting each other at right angle was not so well preserved. They were at a distance of 5' 1" from the second set of walls. The length of the wall running east to west was 29'; it could be traced in trenches A, B, C and D, at a depth of about 10' and was sealed by layer 3. The wall running north to south could be traced in trenches A, B, C and D at the same depth of 10'; it could be traced to a distance of 91'; but it was interrupted by a staircase to be soon mentioned.

The innermost set of two walls, meeting each other at right angle was at a distance of 5' 2" from the one described above. The wall running east to west could be traced for a length of 21' 6" and the one running north to south for a length of 71' with one interruption of a staircase. It was also resting on natural soil and sealed by layer 3.

At the eastern extremity of trenches A and B we found one staircase; only its last five steps and the platform above them were preserved (Pl. XXV). The staircase was seven feet wide and the width of each step was 9" to 10". Bricks-on-edge were used for the steps of this staircase as well as of the other two to be soon mentioned. After the fifth step there was a platform 3' 9" wide and after the platform there would have been more steps which are not preserved as indicated in the plan (Fig. 17).

In trenches C and D also, we found two flights of steps between pegs VI and X (Pl. XXVI) and pegs XX and XXIV (Pl. XXVII). In the first of these staircases we found five steps and a landing. Above this landing there were more steps of which we could trace only two. The staircase was 7' wide up to the first platform after which it was 5' 9" wide only. The breadth of the step was 9".

In trenches between pegs XX and XXIV we found the traces of a third staircase of five steps and a landing above. In this case the last five steps and the landing were preserved (Pl. XXVI). The width of the step was 10" to 12".

The bricks used in these four walls were  $14'' \times 10'' \times 1.75''$  in dimension. Probably the floors between the two walls were paved with bricks, as we had found the remains of brick floors between walls two and three (Fig. 17).

The section on O and O' (Fig. 16) would show that there was a slope descending down from west to east. From the above section it is also clear that first two walls were resting on layer 5 which was greenish clay and sealed by black compact clay mixed with brickbats and sand. This was the debris of these walls. From here we found, besides other things, some typical terracottas which were ascribed to Period IV (c. 300 to 450 A.D.) and copper coins of Chandragupta II. So there is no doubt that this structure was built during c. 300 to 450 A.D. and might have been destroyed just towards the beginning of the Period V, i.e. c. 450 to 600 A.D.

The purpose of the structure above described, is not clear, as we could not excavate the whole structure because the land to its north and east had not been acquired by us. But it appears to be a structure associated with a tank.<sup>1</sup> Probably the walls served as a corridor for passages, though we cannot be sure on the point. We may suggest that there was a *kachcha* tank or part of a canal during the period of the Mauryan Pillared Hall and it would have been built *pakka* during the Gupta period i.e. c. 300 to 450 A.D.

#### TRENCHES D, E AND G

On the top of the stratum 3 and at a depth of about 6' we found consecutive *pakka* drains running south to north or vice versa (Pl. XXVIII). We were able to trace drains in an area 66 sq. feet. There were depressions in the middle of these drains. The purpose of these drains was not clear to us. Very few sherds of red ware were found from the layer 2 which sealed these drains. The mouth of these drains were 9". As we have not found anything from the sealing layer of these drains, so it is very difficult to date them more precisely. Tentatively we have put them to Period V c. 450 to 600 A.D. The dimensions of bricks used were  $16'' \times 10'' \times 2.5''$ .

#### TRENCHES H, J AND K

As stated above three trenches of various measurements were laid out on the small mound to the south of this area. We found a number of structures in a very flimsy dilapidated condition belonging to Periods II to IV (Pl. XXIX). As the area excavated here was very small, we could not know the exact plans of the structures. We excavated up to a depth of 22' 3", when we reached the sub-soil water. In the trench between pegs V and VI, at a depth of 12' 10" plenty of stone chips and fragments, some showing the Mauryan polish, were found. The natural soil was found at a depth of about 14' from the surface. The earliest wall of two courses was found at a depth of 10' 7" belonging to Period II.

In the trench H towards the eastern section we found a terracotta soak-pit or ring-well of 16 rings resting on natural soil. We found a number of silver punch-marked coins from the sealing layer of this ring-well as also pottery of the Śunga period. So it belongs to Period II. Bricks used in the structures of Periods III and IV are mostly brickbats.

#### J. KR VI

To the west of the graveyard A and 177' 6" from KR IV XB, we laid out a trench measuring  $33' \times 9' 6''$  with a view to ascertain the nature of the high mound of brick ruins, on a portion of which Muslim graves are now found.

Here we did not find any structure of Periods I, II, IV and V.

<sup>1</sup> Similar tanks have been found at Nagarjunakonda (*Indian Archaeology, a Review*, 1956-57, Pl. LVA) and Tamruk (*Ibid*, 1954-55, Pl. XXXVI A).

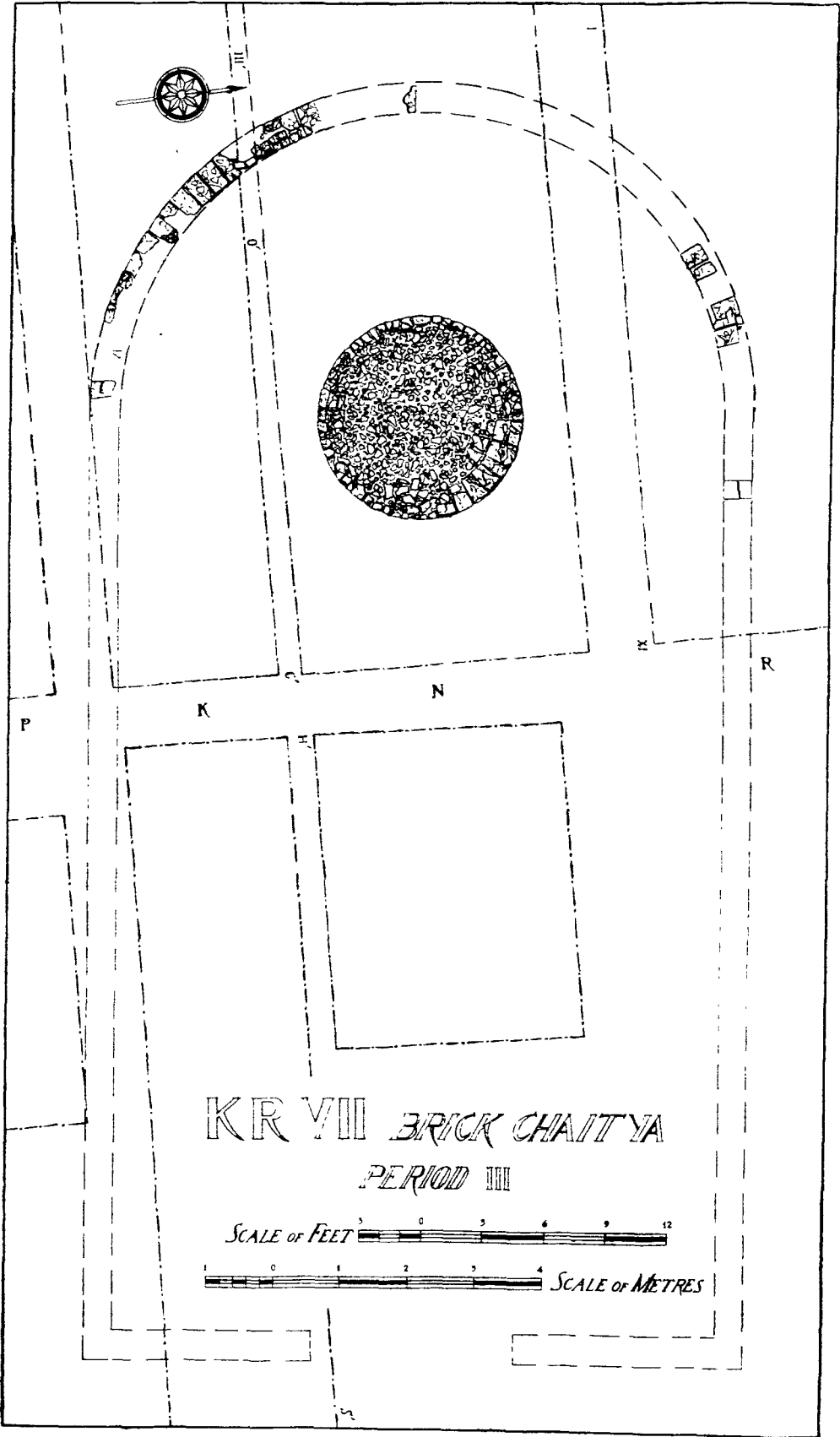
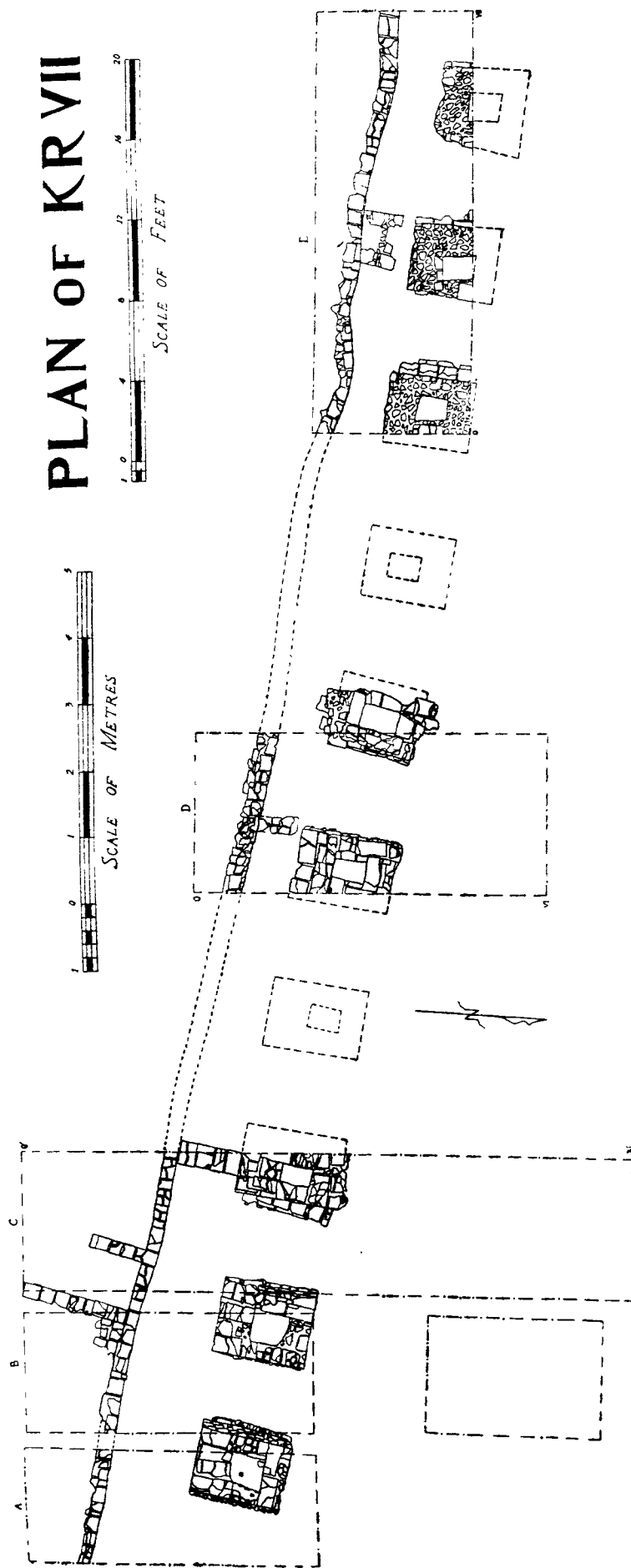


FIG. 18.





*Structures of Period III, c. 100 to 300 A.D.*

A big wall belonging to this Period was found. The wall was 33' long and 6' 4" wide. It was built mostly of brickbats; there were a few complete bricks measuring 14" × 10" × 2" laid in mud mortar. We found twentyone courses of this wall. Its foundation was 5' to 10' 10½" below ground level, which was sloping from east to west. On the southern side we found a stratum mixed with plenty of lime which indicated that this wall was lime plastered on its southern side. It rested on a layer which was similar to layer 9 of KR IV being of bluish and yellowish clay. On the whole the wall was in a very dilapidated condition.

From this trench few punch-marked and cast coins were found. The pottery found from the layer on which this wall rests is mostly grey. Some beautiful lids were found in this trench (Pl. LXXI). We could not excavate the wall further on the west, as there was a trench there excavated by Spooner. However, it seems to have some relation with the structures of Period III of KR IV or KR II.

## K. KR VII (Figs. 18 and 19; Pls. XXX and XXXI)

Just to the west of KR IV a number of trenches of various dimensions were laid extending up to Mauni Pokhar in its vicinity. Dr. Spooner had excavated a part of this area earlier and he found few structures. So we wanted to check the nature of the structures associated with those already excavated by him.

The most important structure, which was found in this area, was an apsidal brick Chaitya with a brick stupa in its centre (Fig. 18 and Pl. XXXI); this belonged to Period III. A terracotta sealing with an inscription *Subhāva(vā)śa(sa)* i.e. an auspicious dwelling, is the most important antiquity of Period II.

*Structures of Periods II and III*

In the trenches A, B, C, D and E eight rectangular columns were found measuring nearly 4' 10" × 3' 6" (Fig. 19); three of these are also shown in Pl. XXX. Probably there were more columns, one between trenches C and D and another between trenches D and E. They were at a distance of 3' 6" to 4' from one another. These columns were found at a depth of 1' 3" to 9" from the surface. Practically in the centre of each column there was a hollow space varying in measurement from 18" × 11" to 23" × 15" which was filled up with earth and small brick chips. There was a layer of compact greenish clay about two to two and half feet in depth, running north and south of these columns. It may be a filling layer. These columns were used in Periods II and III. In between trenches B and C, a terracotta sealing with the inscription *Subhāva(vā)śa(sa)* (Pl. XXXIII, 8) was discovered over the wall running practically parallel to these columns. The palæography of the legend shows that it belongs to Period II. The later structures here belong to Period III, as is also indicated by the stratification. The earlier ones were made of brickbats and later ones were made of brickbats and complete bricks of 19" × 10" × 3.5" dimension. The earlier structures were found at a depth of 3' 6" from the present ground level.

The purpose of these columns is not clear. May they be pedestals for supporting wooden pillars of a hall or verandah? As the area was to a great extent disturbed by earlier excavations, we could not undertake further excavations to solve the mystery of their purpose.

To the south of these columns and at a distance of about 4' 4" a wall was traced up to 79' in length. Probably in Period II it was parallel to these columns but in later periods it had collapsed on either side. The relation between this wall and the columns described above is not clear. It belongs to Period II.

*Brick Chaitya: Period III, c. 100 to 300 A.D. (Pl. XXXI and Fig. 18)*

In the trenches P, K, N and R remains of an apsidal Brick Chaitya were found. In the centre there was a Stūpa measuring 10' in diameter. The breadth of the apsidal near the centre of the Stūpa was 29' 6". The walls of the arms of the apsidal were badly robbed and so their precise length could not be ascertained. Traces of the robbers' pits would indicate that they were probably 59' in length (Pl. XXXI). Brick apsidal Chaityas are rather rare and so this structure, belonging to Period III is a remarkable one. We did not find any Buddhist antiquities or sculptures connected with this Chaitya.

This Chaitya of Period III was built over some structures of Periods I and II. It was not possible to get a clear picture of their nature.

#### L. KR VIII (Fig. 2)

On the east of the graveyard B, we laid out three trenches viz. KR VIII, VIII A and VIII C. One trench viz. KR VIII B was also laid out towards the south of the graveyard B. They were of various measurements (Fig. 2). The purpose of laying out these trenches just adjacent to the graveyard was to see the nature of the high mound on a portion of which Muslim graves were built later.

Here we did not find any structure of Periods I, III, IV and V. In the trench VIII A a brick concrete floor at a depth of 2' 5" from the surface and sealed by a debris was found. As we did not find any datable material from the sealing layer of the floor, it is difficult to date it. No trace of another structure associated with this floor was found in any of the trenches. All the trenches were practically badly robbed and were full of pittish materials.

*Period II, c. 150 B.C. to 100 A.D.*

In the trench VIII A we found traces of the brick concrete foundation of a room measuring 9' × 7' 6". The foundation of the room was 10' below the present ground level. We traced twenty nine courses of its southern wall. The western wall was traced up to a length of 7' from its south-west corner. Besides these two walls only remains of brick foundations were found at other places. On both the sides of these walls, there were offsets measuring 4" to 5". The breadth of the wall was 1' 4" only. The western as well as the northern walls of this room were going towards the south and the west respectively, suggesting that there were other rooms towards south and west of the above room. We found a number of punch-marked and cast coins and typical pottery and terracottas belonging to Period II from the associated layers of this room. So this room has been put to the Period II.

## CHAPTER V

### POTTERY

THE pottery from Kumrahar is essentially plain. Painted wares are rare and decorations are not common. It is usually wheel turned, save for a few exceptions.

The earliest pottery is grey ware sometimes fine, sometimes coarse. The most common type consists of bowls of grey ware with incurved rim. The Northern Black Polished Wares and grey wares are found in Periods I and II. Only few sherds of the Northern Black Polished wares were found in early layers of Period III. So the latest date of the Northern Black Polish Ware seems to be the first century A.D. Some Northern Black Polish Wares, grey wares and red wares have been stamped with symbols like crescented hill and hollow cross, which are common on cast and punch-marked coins. The Northern Black Polished Ware was obviously costly; we sometimes come across broken fragments rivetted by copper (Pl. LXIV, 3-5; Fig. 30, No. 37).

Many sherds were found, ochre in colour, but they do not belong to the class of rolled ochre wash ware from Hastinapur and Bhadurabad of the proto-historic period. See Dr. Lal's note on p. 85.

A representative collection of pots and sherds from the various periods of Kumrahar is illustrated in this chapter.

#### *Basins*

A number of basins of different types and varieties have been unearthed from the excavations. These basins are generally found from Periods I and II in large numbers. Only one sherd has been found from Period III which is of red ware with clubbed rim and medium fabric. Period IV has yielded only six sherds of these basins. This indicates that basins were very common at Kumrahar in Periods I and II and after that there was a break. The basins of Period IV are not as good in workmanship as those of the earlier periods. They have generally mica-smeared body with deep red slip inside and outside and gritty black core. The basins of Periods I and II are of grey, red and ochre wares. These basins have thickened rims with or without projections. Some of the sherds of Period I have gritty fabric and coarse core with black slip inside even and up to the rim.

The following sherds are illustrated :—

FIG. 20<sup>1</sup>

1. Fragment of a large basin of red ware with clubbed and internally corrugated rim and a concave neck. It is of medium fabric. It belongs to Period I.
2. Fragment of a medium sized basin of light ochre coloured ware with slightly incurved rim. It is of gritty coarse fabric. It belongs to Period II.
3. Fragment of a basin of red ware with a simple and thick incurved rim. It is of medium fabric. It belongs to Period II.

<sup>1</sup> Figures 20 to 43 are bound at the end of the Report before the Plates.

4. Fragment of a basin of light ochre coloured ware with internally thickened incurved rim. It is of medium fabric. It belongs to Period I.
5. Fragment of a basin of light red ware with incurved rim. It is of medium fabric with traces of red slip. It belongs to Period II.
6. Fragment of a basin of medium gritty fabric with grey core. It belongs to Period II.
7. Fragment of a basin of light red ware with incurved rim and ridges on the exterior of the neck. It is of medium fabric. It belongs to Period I.
8. Fragment of a large basin of light red ware with thickened incurved rim and an external groove on the shoulder. It is of medium fabric. It belongs to Period II.
9. Fragment of a basin of light red ware with incurved rim and a projection on the neck. It is of medium fabric with black slip inside which continues up to the rim on the exterior. Period I.
10. Fragment of a basin of light red ware with incurved rim and a groove on the shoulder. It is of medium fabric. It belongs to Period II.
11. Fragment of a basin of light red ware with internally undercut and incurved rim. It is of medium fabric. It belongs to Period I.
12. Fragment of a basin of light ochre coloured ware with incurved rim and a groove on the shoulder. It is of medium gritty fabric and in mica-smeared body. It belongs to Period II.
13. A basin of light red ware with very thick wall and clubbed rim. It is of gritty coarse fabric. It belongs to Period II.
14. Fragment of a lipped bowl of red ware. It is of medium fabric. It belongs to Period II.
15. Fragment of a basin of red ware with clubbed rim. It is of medium fabric. It belongs to Period III.
16. Fragment of a basin of light ochre coloured ware with thickened rim and grooved on the neck. It is gritty coarse fabric with red slip on the exterior. It belongs to Period I.
17. Fragment of a basin of light red ware with incurved rim and grooved internally. It is of medium fabric. It belongs to Period II.
18. Fragment of a basin of light ochre coloured ware with incurved thickened rim. It is of medium fabric. It belongs to Period II.
19. Fragment of a basin of red ware with thickened rim. It is of medium fabric. It belongs to Period II.
20. Fragment of a basin of red ware with incurved thickened rim and a corrugation on the exterior. It is of medium fabric with grey core. It belongs to Period II.
21. Fragment of a basin of light red ware with beaded rim. It is coarse gritty fabric. It belongs to Period IV.

FIG. 21

1. Fragment of a basin of grey ware with incurved and beaked rim and a groove on the exterior. It is of medium fabric. It belongs to Period I.
2. Fragment of a bowl of light red ware with beaded rim and ridges on the exterior. It is of medium fabric with numerous wheel marks. It belongs to Period I.
3. Fragment of a basin of ochre coloured ware with incurved rim and corrugations on the neck. It is of medium fabric. It belongs to Period II.
4. Fragment of a basin of light red ware with beaded rim and grooves on the exterior. It is of medium fabric. It belongs to Period I.
5. Fragment of a basin of light red ware with beaded rim and ridges on the shoulder. It is of medium fabric. It belongs to Period II.
6. Fragment of a basin of light red ware with beaked rim. It is of medium fabric. It belongs to Period II.

## POTTERY,—DISHES

7. Fragment of a basin of red ware with incurved rim. It is of medium fabric. Period II.
8. Fragment of a basin of light red ware with oblique clubbed rim. It is of medium fabric and in mica-smeared body. It belongs to Period II.
9. Fragment of a basin of light red ware with horizontally splayed out rim and in mica-smeared body. It belongs to Period II.
10. Fragment of a basin of light red ware with beaked rim and groovings on the exterior. It is of medium fabric. It belongs to Period II.
11. Fragment of a basin of red ware with incurved clubbed rim and a groove on the shoulder. It is of medium fabric and has red slip inside and outside. It belongs to Period II.
12. Fragment of a basin of light red ware with clubbed rim. It is of coarse fabric and in mica-smeared body. It belongs to Period IV.
13. Fragment of a basin of light red ware with incurved rim. It is of slightly gritty fabric with red slip inside and outside. It belongs to Period I.
14. Fragment of a basin of red ware with sharpened rim and ridges on the shoulder. It is of medium fabric. It belongs to Period II.
15. Fragment of a basin of red ware with oblique clubbed rim. It is of medium fabric. It belongs to Period III. It is a variant of No. 8 above.
16. Variant of No. 8, but no traces of any slip. It belongs to Period I.
17. Fragment of a basin of light red ware with thickened splayed out rim. It has deep red slip inside and outside. It is of medium fabric with black core. It belongs to Period IV.
18. Fragment of a middle sized basin of grey ware with slightly beaked rim. It is of medium fabric. It belongs to Period I.
19. Fragment of a basin of red ware with incurved and thickened rim. It is of medium fabric. It belongs to Period II.
20. Fragment of a basin of red ware with horizontally splayed out rim. It is of medium fabric with deep red slip on the exterior as well as on the interior. It belongs to Period IV.
21. Fragment of a large basin of red ware with a distinctively grooved flared rim. It is of medium fabric with red slip and black core. It belongs to Period II.
22. Variant of No. 20. It belongs to Period IV.
23. Variant of No. 21, but in a mica-smeared body. It belongs to Period II.
24. Fragment of a basin of light red ware with a horizontally splayed out rim. It is of medium fabric with deep red slip. It belongs to Period IV.
25. Fragment of a basin of red ware with flaring rim. It is of medium fabric with red slip inside and outside. It belongs to Period II.

### *Dishes*

Dishes have been found from Periods I to IV. Mostly they are medium grey ware, but some are light red or ochre coloured ware. They have one or two carinations at the waist. Dishes of Period I are generally of medium to coarse fabric with thick waist, whereas those of Period II are in mica-smeared body. They have prominent corrugations of the wheel and some are badly baked. Coarse grey ware dishes of Period III have corrugations inside with thick incurved rim. They have also marks of wheel but only on the outer pan. Period IV has yielded only one sherd of coarse grey ware dish with deep grey slip. Several Gray ware dishes of Kumrahar may be compared with Gray ware dishes of Vaiśālī.

The following sherds are illustrated:—

FIG. 22

1. Fragment of a dish of Gray ware with incurved rim. It is of medium fabric. Period I.

2. Fragment of a dish of light red ware with in-turned and flat rim. It is of medium fabric with black slip on the exterior. It belongs to Period I.
3. Fragment of a dish of grey ware with incurved rim and saggar base. It is of medium fabric. It belongs to Period I.
4. Fragment of a dish of light red ware with flat rim and two carinations. It is of medium fabric. It belongs to Period I.
5. Fragment of a dish of light ochre coloured ware with incurved rim and corrugations on the exterior. It is of medium fabric. It belongs to Period I.
6. Fragment of a dish of red ware with incurved rim and a pointed corrugated waist. It is of medium fabric and has faint traces of red slip on the exterior. It belongs to Period I.
7. Fragment of a dish of grey ware with flat rim and a groove at the neck. It is of medium fabric. It belongs to Period I.
8. Fragment of a dish of grey ware with incurved rim under-cut inside. It is of medium fabric and is badly baked. It belongs to Period II.
9. Fragment of a dish of grey ware with internally curved rim and corrugations on the profile. It is of medium fabric and in mica-smear body. It belongs to Period II.
10. Fragment of a dish of grey ware with incurved rim, three projections at the waist and corrugated internally. It is of medium fabric. It belongs to Period III.
11. Fragment of a dish of grey ware with thick incurved rim, saggar base and prominent striation marks. It is of medium fabric. It belongs to Period II.
12. Fragment of a dish of grey ware with featureless rim and internal incision marks. It is of medium fabric. It belongs to Period III.
13. Fragment of a bowl of light red ware with thickened rim. It is of medium fabric. It belongs to Period II.
14. Fragment of a dish of grey ware with incurved rim and flat base. It has corrugation on the exterior. It is of medium fabric. It belongs to Period I.
15. Fragment of a dish of grey ware with incurved rim and inside and outside corrugations. It is of medium fabric. It belongs to Period I.
16. Fragment of a small dish with thin rim and three projections on the waist. It is of medium fabric. It belongs to Period I.
17. Fragment of a dish of grey ware with flat rim. It is of gritty medium fabric. It belongs to Period I.
18. Fragment of a dish of grey ware with incurved rim and a corrugation at the waist. It is of medium fabric. It belongs to Period II.
19. Fragment of a dish of grey ware with thin and incurved rim and projection at the waist. It is of medium fabric. It belongs to Period I.
20. Fragment of a dish of grey ware with thick incurved rim and marks of wheel on the exterior. It is of medium fabric. It belongs to Period III.
21. Fragment of a dish of grey ware with simple flat rim. It is of medium fabric. It belongs to Period I.
22. Fragment of a dish of grey ware with slightly everted rim. It is of medium fabric. It belongs to Period I.
23. Fragment of a dish of grey ware with incurved rim and thick waist. It is of medium fabric. It belongs to Period I.
24. Variant of the above but with flat rim.
25. Fragment of a dish of light red ware with incurved rim and outside corrugations on the waist. It is of medium fabric. It belongs to Period I.

26. Fragment of a dish of grey ware with incurved flat rim and two carinations. It is of medium fabric. It belongs to Period II.
- fa 27. Fragment of a dish of grey ware with slightly everted rim and one carination. It is of medium fabric. It belongs to Period II.
- sm 28. Variant of the above. It belongs to Period II.
29. Fragment of a large dish of grey ware with incurved rim and having two carinations and corrugations on the exterior. It is of medium fabric with dark grey core. It belongs to Period I.
30. Variant of the above. It belongs to Period II.
31. Fragment of a dish of grey ware with two carinations outside and incurved rim. It is of medium fabric with deep grey slip in the interior. It belongs to Period IV.

*Basins, Bowls, Vases and Jars*

The main characteristic of the basins and bowls illustrated in this figure is similar to those described above in Figures 20 and 21. Here illustrations of big jars belonging to Period I are interesting. Generally they are of red ware of coarse gritty fabric with black core and mixed with husk. Some of these big jars, which were probably used for storing grains etc., are black inside due to inverted firing. From Period II a hand-made hearth with footing base has been unearthed. While preparing the hearth, clay and husk were mixed together. We find that vases of Period III have thick pans with corrugations on the shoulder.

The following specimens are illustrated :—

FIG. 23

1. Fragment of a large basin of light red ware with clubbed, incurved rim and a ledge at the neck. It is of medium fabric and in mica-smear body. It belongs to Period I.
2. Fragment of a vase of red ware with externally beaded rim and internally grooved neck. It is of medium fabric with light blue core. It belongs to Period II.
3. Fragment of a vase of ochre coloured ware with flared rim. It is of coarse fabric and in micasmear body. It belongs to Period I.
4. Fragment of a large basin of red ware with incurved thickened rim having a ledge at the neck and corrugations on the shoulder. It is of medium fabric. It belongs to Period II.
5. Fragment of a bowl of ochre coloured ware with flared grooved rim. It is of medium fabric with traces of sooting inside, probably due to cooking. It belongs to Period II.
6. Fragment of a large bowl of light red ware with clubbed rim. It is of medium fabric. It belongs to Period III.
7. Fragment of a vase of light red ware with slightly splayed out rim and a corrugation in the shoulder. It is of medium fabric and in mica-smear body. It belongs to Period I.
8. Fragment of a large basin of red ware with clubbed rim. It is treated with red slip outside and inside. It is of medium fabric. It belongs to Period IV.
9. Fragment of a big vase of light red ware with externally thickened rim and a corrugation at the neck. It is of coarse gritty fabric with black core and mixed with husk. It belongs to Period I.
10. Fragment of a big jar of red ware with thickened rim and corrugations on the exterior. It is of medium fabric and black inside. It belongs to Period I.
11. Fragment of a big vase of light red ware with beaded rim. It is of coarse and gritty fabric. It belongs to Period I.
12. Fragment of a jar of black and red ware with vertical thickened rim and ridges on the neck. The inside of the jar is black, probably due to inverted firing. It is of medium fabric. It belongs to Period I.

13. Fragment of a vase of red ware with thick walls and corrugations on the shoulder. It is of medium fabric with red slip on the exterior. It belongs to Period III.
14. Fragment of a jar of red ware with internally thickened rim and externally corrugated shoulder. It is of medium fabric with black core. It belongs to Period I.
15. Fragment of a vase of light red ware with undercut everted rim. It is of medium fabric. It belongs to Period IV.
16. Fragment of a jar of light ochre coloured ware with beaked rim and grooved neck. It is of medium fabric. It belongs to Period II.
17. Fragment of a hearth with its foot-ring base. The inner surface of the hearth shows black stains due to burning. It is of medium fabric with clay and husk being mixed together. It is hand-made. It belongs to Period II.
18. Variant of No. 16. It has a corrugated rim. It is of medium fabric and in mica-smeared body. It belongs to Period IV.

### Vases

The vases illustrated below are from Period I to IV; practically in all the periods they are in mica-smeared body. In Period I, beaded rims are very common. Simplicity is the other characteristic of this period. Most of the vases are of coarse gritty fabric. Some of them have traces of red slip on the exterior. Corrugation on the shoulder or on the neck is also seen in these vases of this period. In Period II, gritty coarse fabric and flaring rims are most common characteristics. Some of the vases have very thin pan, some are globular in shape (Fig. 27,8). Some of them have black slip inside or outside, but as we proceed to the next period, we find that none of these characteristics continued. In Period III, light red vases with everted, or beaded rim and grooves in the shoulder are common. In Period IV, vases are of gritty coarse fabric with black or grey core, neck becoming thinner or corrugated. They have deep red slip on the exterior and on some portions of inside rim. Besides these common types, there are some other types as illustrated below. The cooking vessels (Fig. 27,6) have usually marks of sooting on their bases.

FIG. 24

1. Fragment of a vase of light red ware with ledged neck. It is of medium fabric with greyish red core. It belongs to Period I.
2. Fragment of a vase of light red ware with vertical and externally corrugated rim. It is of medium fabric. It belongs to Period II.
3. Fragment of a vase of red ware with clubbed flared rim and corrugated neck. It is of gritty coarse fabric with black core. It belongs to Period IV.
4. Fragment of a vase of light ochre coloured ware with incurved and externally grooved rim. It is of gritty medium fabric. It belongs to Period II.
5. Variant of No. 1 above.
6. Fragment of a vase of light red ware with excurved corrugated rim. It is of medium fabric. It belongs to Period I.
7. Fragment of a vase of light ochre coloured ware with flared out-turned rim and corrugated neck. It is of coarse gritty fabric. It belongs to Period I.
8. Fragment of a vase of light ochre coloured ware with incurved and externally corrugated rim. It is of medium fabric with red slip on the exterior and also inside up to rim. It belongs to Period II.



## POTTERY,—VASES

9. Fragment of a vase of light red ware with out-turned grooved rim. It is of coarse gritty fabric. It belongs to Period I.
10. Fragment of a vase of light red ware with clubbed rim. It is of gritty coarse fabric. It belongs to Period II.
11. Fragment of a vase of light red ware with out-turned and inside under-cut rim. It is of medium fabric. It belongs to Period II.
12. Fragment of a vase with red slip on the exterior and constricted neck. It belongs to Period IV.
13. Fragment of a vase of light red ware with ledged neck and grooved rim. It is of medium fabric and in mica-smeared body. It belongs to Period I.
14. Fragment of a vase of blackish red ware with beaded and corrugated rim. It is of coarse gritty fabric. It is blackish red outside due to bad firing. It belongs to Period II.
15. Fragment of a vase of light ochre colour with flared and grooved rim. It is of medium fabric. It belongs to Period II.
16. Fragment of a vase of light red ware with beaked rim. It is of medium fabric. It belongs to Period I.
17. Variant of No. 13 above. It belongs to Period II.
18. Fragment of a vase of light red ware with clubbed and outside corrugated rim and thin wall. It is of medium fabric. It belongs to Period II.
19. Fragment of a vase of light ochre colour with beaded grooved rim and corrugated neck. It is of medium fabric. It belongs to Period II.
20. Variant of No. 16 above. It belongs to Period II.
21. Fragment of a vase of light red ware with beaked and externally grooved rim. It is of medium fabric. It belongs to Period II.
22. Fragment of a vase of light ochre colour with beaded rim and a ledge on the neck. It is of gritty coarse fabric but in mica-smeared body. It belongs to Period I.
23. Fragment of a vase of light red ware with beaked flared rim and with a ledge on the neck. It is of medium fabric with light red slip on the exterior. It belongs to Period I.
24. Fragment of a vase of light red ware with beaked and internally under-cut rim with black slip inside and outside. It is of medium fabric. It belongs to Period II.
25. Fragment of a vase of light red ware with externally thickened rim. It is of medium fabric. It belongs to Period I.
26. Fragment of a vase of light ochre ware with beaked out-turned rim and corrugations on the neck. It is gritty coarse fabric but in mica-smeared body. It belongs to Period II.
27. Fragment of a vase of red ware with flared rim. It is of medium fabric. It belongs to Period II.
28. Fragment of a vase of light ochre colour with everted beaked rim. It is of medium fabric. It belongs to Period II.
29. Fragment of a vase of light red ware with externally corrugated rim and bottle neck. It is of medium fabric. It belongs to Period II.
30. Fragment of a vase of light ochre ware with beaded rim and ledged neck. It is of gritty coarse fabric. It belongs to Period II.
31. Fragment of a vase of red ware with beaked rim and corrugated neck. It is of medium fabric. It belongs to Period IV.
32. Variant of No. 28 above with prominent internally under-cut rim. It belongs to Period II.
33. Fragment of a vase of light red ware with incurved flanged rim. It is of medium fabric with deep red slip on the exterior. It belongs to Period II.
34. Variant of No. 30 above. It belongs to Period III.

35. Fragment of a vase of red ware with splayed out rim and grooved shoulder. It is of gritty coarse fabric with grey core. It belongs to Period IV.
36. Fragment of a vase of light red ware with everted beaked rim. It is of gritty coarse fabric. It belongs to Period II.
37. Fragment of a vase of red ware with slightly incurved rim and corrugation inside. The inner side of the vase is black. It is of coarse fabric. It belongs to Period I.
38. Fragment of a vase of light red ware with out-turned beaded rim. It is of coarse gritty fabric. It belongs to Period IV.
39. Fragment of a vase of light red ware with flared rim. It is gritty and of medium fabric. It belongs to Period III.
40. Fragment of a vase of light colour ware with slightly flared rim. It is of medium fabric. It belongs to Period II.
41. Fragment of a vase of light red ware with clubbed rim and ledged neck. It is of gritty coarse fabric. It belongs to Period II.
42. Fragment of a vase of light ochre colour with flared rim and ledged neck. It is of medium fabric and has mica-smear body. It belongs to Period II.
43. Variant of No. 39 above. Signs of red slip on the rim. It belongs to Period IV.
44. Fragment of a vase with splayed out rim. Its fabric is coarse and it has deep red slip. It belongs to Period IV.

FIG. 25

1. Fragment of a vase of light ochre colour with externally thickened flat rim; it is grooved in the shoulder. It is of gritty medium fabric. It belongs to Period I.
2. Fragment of a vase of light red ware with beaded rim. It is of medium fabric. It belongs to Period I.
3. Fragment of a vase of light ochre colour with flared beaded rim and grooves on the shoulder. It is of medium fabric and in mica-smear body. It belongs to Period I.
4. Fragment of a vase of light ochre colour with beaded rim and mica-smear body. It is of medium fabric. It belongs to Period II.
5. Fragment of a vase of light red ware with clubbed and internally grooved rim. It is of greyish gritty core with traces of red slip on the exterior. It belongs to Period I.
6. Fragment of a vase of light red ware with flaring rim and ridges on the shoulder. It is of gritty and coarse fabric. It belongs to Period II.
7. Fragment of a vase of greyish red ware with flaring beaked rim. It is of gritty fabric. It belongs to Period II.
8. Fragment of a vase of light red ware with beaked flared rim. It is of medium fabric. It belongs to Period II.
9. Fragment of a vase of light red ware with flared and flat rim, internally undercut. It is of coarse fabric with grey core and mica-smear body. It belongs to Period II.
10. Variant of No. 6 but no ridges on the shoulder. It belongs to Period II.
11. Fragment of a vase of light red ware with clubbed and internally undercut rim. It is of gritty fabric. It belongs to Period II.
12. Fragment of a vase of light red ware with everted rim. It is of medium fabric. It belongs to Period III.
13. Fragment of a vase of light red ware with externally thickened and flat rim and grooves on the shoulder. It is of gritty and coarse fabric. It belongs to Period III.
14. Fragment of a vase of greyish red ware with beaded rim. It is of medium fabric. It belongs to Period I.

## POTTERY,—VASES

15. Fragment of a vase of light red ware with out-turned beaked rim. It is of gritty coarse fabric. It belongs to Period IV.
16. Fragment of a vase of red ware with beaked rim. It belongs to Period II.
17. Fragment of a vase of light ochre colour with flat rim and ridges on the neck. It is of gritty coarse fabric with red slip on the exterior. It belongs to Period II.
18. Fragment of a vase of light ochre ware with beaded flared rim and grooved neck. It is of medium fabric with traces of red slip externally. It belongs to Period II.
19. Fragment of a vessel of light red ware with simple vertical rim, slightly incurved. It is of medium fabric with grey core. It belongs to Period I.
20. Fragment of a vase of light red ware with beaked flared rim. It is of medium fabric. It belongs to Period II.
21. Fragment of a vase of light ochre colour with clubbed flat rim and grooves on the shoulder. It is of medium fabric. It belongs to Period II.
22. Fragment of a vase of red ware with beaked rim having ridges on the shoulder. It is of coarse fabric. It belongs to Period II.
23. Variant of No. 19 above. It belongs to Period II.
24. Fragment of a vase of light ochre colour with flared rim. It is of coarse gritty fabric. It belongs to Period II.
25. Fragment of a vase of light red ware with out-turned clubbed rim. It is of medium fabric with greyish red core. It belongs to Period I.
26. Fragment of a vase of red ware with beaked and out-turned rim. It is of medium fabric with red slip on the exterior which continues up to some portions of interior rim. It belongs to Period IV.
27. Variant of No. 23. It is of medium fabric. It belongs to Period II.
28. Fragment of a vase of light red colour with beaked rim. It is of medium fabric. It belongs to Period I.
29. Fragment of a vase of red ware with thickened flared rim and corrugated neck. It is of medium fabric. It belongs to Period II.
30. Fragment of a vase of light red ware with out-turned beaked rim. It is of medium gritty fabric. It belongs to Period II.
31. Fragment of a vase of light red ware with thin rim and corrugated shoulder. It is of gritty coarse fabric. It belongs to Period III.
32. Fragment of a vase of light ochre coloured ware with beaded rim. It is of medium fabric. It belongs to Period I.
33. Variant of the above. It belongs to Period II.
34. Fragment of a vase of red ware with flared thickened rim. It is of medium fabric. It belongs to Period II.
35. Fragment of a vase of light red ware with beaked and flared rim. It is of coarse fabric and in mica-smeared body. It belongs to Period III.
36. Fragment of a vase of red ware with beaked rim. It is of medium fabric. It belongs to Period IV.
37. Variant of No. 33 above but thinner. It belongs to Period III.
38. Fragment of a vase of light red ware with flared rim. It is of medium fabric. It belongs to Period II.
39. Variant of No. 35 above. It belongs to Period III.
40. Fragment of a vase of light ochre coloured ware with out-turned and beaked rim. It is of medium fabric. It belongs to Period I.

41. Fragment of a vase of greenish red ware with flared beaked rim; impression of linear design on the body. It is of medium fabric and half baked. It belongs to Period II.

42. Variant of No. 38 above. It is of gritty coarse fabric and is mica-smearred. It belongs to Period III.

43. Fragment of a vase of light red ware with beaked rim. It is of coarse gritty fabric. It belongs to Period II.

44. Variant of No. 40 above. It is of coarse gritty fabric. It belongs to Period I.

FIG. 26

1. Fragment of a vase of light red ware with a splayed out rim. It is of coarse gritty fabric. It belongs to Period I.

2. Fragment of a vase of light red ware with a splayed out rim. It is coarse gritty fabric. It belongs to Period II.

3. Fragment of a vase of red ware with a horizontally splayed out and flat rim. It is of medium fabric with black slip inside. It belongs to Period III.

4. Fragment of a medium sized vase of light red ware with splayed out rim and grooved shoulder. Its fabric is gritty, being mixed with fine sand. It belongs to Period I.

5. Fragment of a vase of red ware with excurved beaked rim, externally grooved shoulder and carination on the waist. It is of medium fabric. It belongs to Period II.

6. Fragment of a vase of light red ware with flaring rim. It is of coarse fabric with deep red slip on the exterior. It belongs to Period IV.

7. Fragment of a small vase of red ware with flaring rim. It is of coarse fabric. It belongs to Period I.

8. Fragment of a vase of light ochre colour with simple flared rim. It is of medium fabric with deep red core. It belongs to Period II.

9. Fragment of a vase of light red ware with flared corrugated rim and ridges on the neck. It is of gritty and coarse fabric. It belongs to Period II.

10. Fragment of a middle sized vase of ochre colour with a grooved excurved rim. It is of medium fabric with red slip on both the sides of the rim. It belongs to Period II.

11. Fragment of a vessel of light grey ware with flaring rim and grooved shoulder. It is of coarse fabric with grey slip inside and outside. It belongs to Period IV.

12. Fragment of a vase of light red ware with slightly flaring rim. It is of medium fabric with black slip inside and outside. It belongs to Period I.

13. Fragment of a vase of light red ware with flared rim. It is of medium fabric. It belongs to Period II.

14. Fragment of a vase of red ware with simple flared rim. It is of medium fabric. It belongs to Period II.

15. Fragment of a vase of light red ware with flared rim. It is of medium fabric with gritty core. It is devoid of any slip. It belongs to Period I.

16. Fragment of a vase of light red ware with flared rim and externally grooved neck and a ledge at the waist. It is of medium fabric with red slip outside. It belongs to Period I.

17. Fragment of a vase of light yellowish ware with out-splayed and flat rim and long neck. It is of medium fabric with grey core. It belongs to Period II.

18. Fragment of a vase of red ware with flared rim. It is of medium fabric. It belongs to Period II.

19. Fragment of a vase of light red ware with flared rim and constricted neck. It is of medium fabric. It belongs to Period IV.

20. Fragment of a vase of light red ware with thickened rim. It is of gritty coarse fabric. It belongs to Period II.
21. Variant of the above. It belongs to Period II.
22. Fragment of a vase of light red ware with flared rim and externally and internally grooved neck. It is of gritty and coarse fabric with greenish core. It has prominent marks of wheel. It belongs to Period III.
23. Fragment of a vase of red ware with thickened and grooved rim and also groovings on the neck. It is of medium fabric. It belongs to Period IV.
24. Fragment of a big vase of red ware with beaded rim and grooved neck. It is of medium fabric with grey core. It belongs to Period II.
25. Fragment of a big vase of light red ware with clubbed and internally grooved rim. It is of medium fabric. It belongs to Period II.
26. Fragment of a vase of light red ware with flared rim. It is of medium fabric with traces of bright red slip outside. It belongs to Period I.
27. Fragment of a vase of light red ware with flared rim and corrugations on the exterior of the shoulder. It is of coarse gritty fabric. It belongs to Period II.
28. Fragment of a medium sized vase of light red ware with flared rim. It is of very gritty and coarse fabric. Faint traces of red slip are visible. It belongs to Period II.
29. Fragment of a vase of light red colour with flared rim. It is of medium fabric. It belongs to Period II.
30. Fragment of a vase of light red ware with flared rim and ridges on the shoulder. It is badly baked. It is of coarse fabric. It belongs to Period III.
31. Fragment of a vase of light red ware with flared rim and ridges on the shoulder. Its fabric is coarse. It belongs to Period IV.
32. Fragment of a vase of red ware with out-turned and clubbed rim and grooved neck. It is in mica-smeared coarse fabric. It belongs to Period I.
33. Fragment of a vase of red colour with outplayed rim. It is in mica-smeared coarse fabric with deep red slip on the exterior which continues internally up to rim. It belongs to Period I.
34. Fragment of a vase of red colour with flared rim. It is of coarse gritty fabric. It belongs to Period I.
35. Fragment of a vase of light red ware with out-turned rim. It is of gritty medium fabric with deep red slip. It belongs to Period II.
36. Fragment of a small vase of light red ware with splayed out rim. It is of gritty coarse fabric with red slip inside and outside. It belongs to Period III.

FIG. 27

1. Fragment of a vase of light red ware with flared rim and in mica-smeared body. It is of medium fabric. It belongs to Period I.
2. Fragment of a vase of greyish red ware with out-turned rim. It is of coarse fabric with gritty core. It belongs to Period I.
3. Fragment of a vase of red ware with out-turned and internally grooved rim. It is of medium fabric with black core and red slip on the exterior which continues up to rim in the interior. It belongs to Period II.
4. Fragment of a vase of light red ware with flared rim, grooved inside. It is of medium fabric and bulbous body. It shows some signs of slip on the exterior of the rim and continues up to the rim internally. It belongs to Period IV.
5. Variant of the above but with gray core. It belongs to Period IV.

6. Fragment of a cooking vessel of red ware with grooved flared rim, deep red slip outside which continues up to the rim inside. It has traces of sooting. It is of medium fabric. It belongs to Period IV.

7. Fragment of a vase of light red ware with flared and externally grooved rim. It is of medium fabric. It belongs to Period II.

8. Fragment of a vase of light red colour with out-turned and internally grooved rim and globular body. It is of medium fabric with light red slip outside and up to the rim in the interior. It belongs to Period II.

9. Fragment of a vase of grey ware with internally grooved rim. It has deep grey slip on the exterior which continues up to the rim inside. It is of medium fabric. It belongs to Period IV.

10. Fragment of a vase of greyish red ware with splayed out rim. It is of gritty coarse fabric. It belongs to Period IV.

11. Fragment of a vase of light red ware with flared rim and ridges on the shoulder. It is of medium fabric. It belongs to Period II.

12. Fragment of a vase of light red ware with flared rim and thin neck. It is of medium fabric and in mica-smear body. It belongs to Period I.

13. Variant of the above but its body is not smeared in mica. It belongs to Period III.

14. Variant of the above. It belongs to Period IV.

15. Fragment of a vase of light red ware with flared rim. It is of gritty coarse fabric and in mica-smear body. It belongs to Period II.

16. Fragment of a vase of light red ware with beaded rim. It is of gritty coarse fabric. It belongs to Period II.

17. Fragment of a vase of light red ware with beaded and internally corrugated rim. It is of medium fabric. It belongs to Period II.

18. Fragment of a vase of deep red ware with incurved beaded rim having internal corrugations. It is of medium fabric. It belongs to Period I.

19. Fragment of a vase of light ochre colour with flared rim. It is of gritty coarse fabric. It belongs to Period II.

20. Fragment of a vase of greyish red ware with flared and beaded rim. It is of coarse fabric. It belongs to Period II.

21. Fragment of a vase of light ochre colour with out-turned and beaked rim. It is of medium fabric with gritty core. It belongs to Period I.

22. Fragment of a vase of red ware with flared and beaded rim. It is of medium fabric and the inner side is coarse. It belongs to Period I.

23. Fragment of a small sized vessel of red ware with beaked rim. It is of medium fabric. It belongs to Period I.

24. Fragment of a vase of buff ware with flared rim. It is of medium fabric and greyish core. It belongs to Period II.

25. Fragment of a vase with flared rim and grooved on the shoulder. Its fabric is coarse and colour light red. It is badly burnt. It belongs to Period II.

26. Fragment of a vase with flared rim and grooved on the shoulder. It is of medium fabric with red slip on the outside. It belongs to Period II.

27. Fragment of a vase of ochre colour with thickened vertical rim. It is of medium fabric with black core. It belongs to Period II.

28. Fragment of a vase of red ware with flared rim. The inner side of the body is irregular. It is of medium fabric. It belongs to Period II.

29. Fragment of a vase of red ware with flared rim. It is of medium fabric with bluish core. It belongs to Period II.

30. Fragment of a vase of light red ware with flared rim. It is of medium fabric with gritty core. It belongs to Period II.
31. Variant of the above. It belongs to Period II.
32. Variant of the above, but grooved on the shoulder. It belongs to Period IV.
33. Fragment of a medium sized vase of red ware with flared rim; it is of gritty coarse fabric. It belongs to Period II.
34. A medium sized vase of red ware with flared mouth and rounded base. It has red slip outside above the waist. Its outer base is gritty. It is of medium fabric. It belongs to Period IV.

*Bowls, Dishes and Basins*

A number of bowls of red, greyish, buff and grey wares have been unearthed from Periods I, II and IV. Grey ware bowls with thick and incurved rim are found from Period I only. The other type of bowls are red ware with an oblique edged rim and external corrugations. They have thick foot-ring or disc bases. Period II bowls are generally of red ware with flared rim and rounded or saggar base. Some of them have carinations on the neck. One of the bowls has red slip in the interior and black slip on the exterior. In Period IV, they are of red ware with flat bases and of gritty fabric. One of them (28; 22) is soot-stained, indicating that it was used for cooking purposes.

FIG. 28

1. Fragment of a large dish of light red ware with flat rim. It is of medium fabric. It belongs to Period II.
2. Fragment of a bowl of light red ware with an oblique edged rim and externally corrugated pan. It is of medium fabric. It belongs to Period I.
3. A bowl of light red ware with incurved rim and flat base. It belongs to Period I.
4. Fragment of a bowl of light red colour with incurved rim. Its inside portion is black. It is of medium fabric. It belongs to Period II.
5. A bowl of a light red ware with incurved rim, externally corrugated pan and foot-ring base. It is of gritty fabric. It belongs to Period I.
6. Fragment of a bowl of light red ware with incurved rim. It is of medium fabric. It belongs to Period I.
7. A bowl of light red ware with corrugated wall and thick foot-ring base. It is of medium fabric. It belongs to period I.
8. Fragment of a bowl of light red ware with vertical rim. It is of medium fabric. It belongs to Period II.
9. Fragment of a bowl of red ware with flared rim and rounded base. It is of medium fabric. It belongs to Period II.
10. Fragment of a bowl of light red ware with flat rim and saggar base. It is of gritty coarse fabric. It belongs to Period II.
11. Fragment of a dish of red ware with vertical and pointed rim. It is of medium fabric. It belongs to Period I.
12. Variant of the above with externally corrugated waist. It is of medium fabric. It belongs to Period II.
13. Fragment of a bowl of light red ware with vertical rim. It is badly baked. It is of medium fabric with red slip inside. It belongs to Period II.
14. Fragment of a vase of light red ware with no well-defined neck. It is of gritty fabric. It belongs to Period II.

15. Fragment of a dish of red ware with slightly incurved rim. It is of medium fabric. It belongs to Period I.
16. A dish of red ware with blunt and internally corrugated rim. The pan is also corrugated on the exterior. It has a foot-ring base. It is of medium fabric. It belongs to Period I.
17. Variant of the above but having no corrugations. It is of medium fabric. It belongs to Period II.
18. A bowl of light red ware with externally corrugated pan. It is of gritty fabric. It belongs to Period II.
19. Fragment of a light red ware bowl with vertical rim. It is of coarse fabric. It belongs to Period IV.
20. A bowl of red ware with flat base, pointed rim and corrugated inside. The base is broader to suit the size of the pan. It is of medium fabric. It belongs to Period IV.
21. Fragment of a bowl of light red ware with incurved rim and internally corrugated. It is of gritty fabric. It belongs to Period IV.
22. A bowl of greyish buff ware with tapering sides, corrugated at the top and a foot-ring at the base. It is burning greyish inside and is soot-stained. It belongs to Period IV.
23. Fragment of a bowl of light red ware with slightly incurved rim. It is of medium fabric. It belongs to Period I.
24. Fragment of a medium sized bowl with incurved rim and a carination at the neck. It is of medium fabric. It belongs to Period II.
25. Fragment of a vase with beaded rim. It is of medium fabric with red slip in the interior and black slip on the exterior. It is of medium fabric. It belongs to Period II.
26. Fragment of a globular vessel of a light red ware with a flange round the neck evidently to receive a lid. It is of medium fabric. It belongs to Period II.
27. Fragment of a bowl of grey ware with thick and incurved rim. It is of coarse fabric. It belongs to Period I.
28. Variant of the above. It belongs to Period II.
29. Fragment of a medium sized bowl of red ware with thick incurved rim. It is of medium fabric. It belongs to Period I.
30. Fragment of a bowl of light yellow ware with thick rim. It is of medium fabric. It belongs to Period II.
31. Fragment of a bowl of red ware with thick rim. It is of medium fabric. It belongs to Period II.
32. Variant of the above. It belongs to Period II.
33. Variant of the above, but in mica-smear body. It belongs to Period II.
34. Fragment of a basin of light red ware with flared ledged shoulder. It is of medium fabric with light red slip which continues up to the rim in the interior. It belongs to Period II.
35. Variant of No. 34. It is of medium fabric. It belongs to Period II.
36. Variant of the above. It has deep red slip on the exterior and the interior. It belongs to Period II.

### LIDS AND OTHER VESSELS

Lids have been found from Periods I, II, III and IV and all of them are of medium fabric and red ware. Period I lids are generally of coarse fabric mixed with fine sand. Period II lids have flanged waist with deep red slip on it. A number of lids belonging to



Period IV have been found from all the sites. Some are bowl shaped, flared rim with flanged waist or a short rim and flange for covering the rims of the vessels over which they were placed.

In Period I bowl has black core which may be due to bad firing, whereas in Period IV, it has a hole and a depression in the handle.

In Period I rimless pot of pinkish grey ware with black slip outside and pink blotches is other type of vessel. Such pots are very few. Rimless bowls of grey or red or ochre colour with carination and gritty coarse fabric are also found. In Period IV we get bluntly carinated bowls of red ware with gritty and coarse fabric. They seem to have been used for cooking purposes.

FIG. 29

1. Fragment of a rimless pot of pinkish grey ware. The in-turned upper portion of the body serves the purpose of a rim. It is of medium fabric with black slip outside with pink blotches. It belongs to Period I.
2. Fragment of a rimless bowl of grey ware with carination at the shoulder. Traces of wheel marks on the exterior. It is of medium fabric. It belongs to Period I.
3. Variant of the above but of light red ware. It belongs to Period I.
4. Variant of the above but of ochre colour and gritty coarse fabric. It belongs to Period I.
5. Fragment of a rimless gray pot with carination at the shoulder. It is of gritty core; outer face below the carination is also gritty and upper portion of exterior is smoothed with light grey slip. It belongs to Period II.
6. Variant of the above. It belongs to Period II.
7. Fragment of a dish of red ware with flared rim. It is of gritty and coarse fabric. It has sooting marks and so was probably used for cooking purposes. It belongs to Period IV.
8. Fragment of a lid-cum-bowl of light red ware with flanged waist. It is of medium fabric. It belongs to Period II.
9. Fragment of a lid of light red ware with inside projection. It is of medium fabric with deep red slip on the rim. It belongs to Period II.
10. Fragment of a lid of light red ware with out-turned flanged waist and incurved rim. It is of medium fabric. It belongs to Period III.
11. Variant of the above but of red ware with deep red slip on the exterior and interior. It belongs to Period IV.
12. Fragment of a lid of red ware with incurved rim and flanged waist. It belongs to Period I.
13. Fragment of a lid of red ware with a knob at the top. It is of medium fabric with traces of red slip on the exterior. It belongs to Period IV.
14. Fragment of a lid-cum-pot of red ware with flared rim with projection at the waist. It is of medium fabric with deep red slip on the exterior which continues up to rim in the interior. It belongs to Period IV.
15. Fragment of a lid of light red ware with flanged rim. It is of medium fabric. It belongs to Period IV.
16. Fragment of a lid of light red ware with a short flanged rim. It is of medium fabric. It belongs to Period IV.
17. Variant of the above with round base. It belongs to Period IV.
18. Variant of the above. It belongs to Period IV.
19. Fragment of a bowl of grey ware with splayed out rim. It is of medium fabric. It belongs to Period I.

20. Fragment of a bowl of light red ware with clubbed out-turned rim. It is of medium fabric. It belongs to Period I.
21. Fragment of a lid of light red ware with slightly flanged rim. It has greyish gritty core. Stained wall of this lid indicates that it often came into contact with fire and consequently has become very brittle. It belongs to Period I.
22. Fragment of a bowl of greyish buff ware with flared out-turned rim. It is of coarse fabric mixed with fine sand. It belongs to Period I.
23. Fragment of a medium sized bowl of light red ware with grooved rim. It is of medium fabric. Deep red slip is only on the rim. It belongs to Period IV.
24. Fragment of a dish of light red ware with horizontally splayed out rim and saggar base. It is of medium fabric. It belongs to Period IV.
25. A light red ware bowl with out-turned rim. It is of medium fabric, tending to be gritty and has traces of red slip inside and outside. It belongs to Period IV.
26. Fragment of a bowl of light red ware with incurved and outsplayed rim. It has greyish core and red slip inside and outside. It is of medium fabric. It belongs to Period I.
27. Fragment of a bowl of light red ware with splayed out rim. It is of medium fabric with black core due to bad firing. It belongs to Period I.
28. Variant of the above. It belongs to Period I.
29. Variant of the above but with a hole and depression in the handle. It belongs to Period IV.
30. Fragment of a bowl of red ware with flared wide rim. It is of medium fabric with grey core. It belongs to Period I.
31. Fragment of a dish of light red ware with out-turned rim. It is of medium fabric. The rim has slip on the exterior as well as on the interior. It belongs to Period III.
32. Fragment of a shallow dish with flared rim. It is of medium fabric with a deep red slip on the exterior. It belongs to Period IV.
33. Variant of the above. It belongs to Period IV.

FIG. 30

*N.B.P. and other Wares*

A large number of N.B.P. Wares have been found from Periods I and II. Only one sherd comes from Period III. These sherds are not so fine as those from some other historical sites. In comparison their number is also small. The dishes of N.B.P. Ware have flared or vertical rims with or without convex sides. Some of these flared rims have also corrugations. Period II has yielded a knob of a lid of this ware. The other characteristic type of N.B.P. Ware of Period I is bowl with incurved rim and a carination on the waist or flared and simple rim. These N.B.P. Wares seem to be costly ones. If they were broken, they were rivetted, as seen in three cases, by two copper strips, as we do in the case of our modern bronze or copper utensils (see e.g. No. 37.) The other important sherd which has been unearthed is a small bowl. In its inner side a leaf is incised, whereas on the outer side three leaf-patterns and crescented three-arched hill are incised; (see No. 38.)

The other ware illustrated in this figure is grey ware belonging to Periods I and II.

FIG. 30

1. Fragment of a big bowl of grey ware with incurved rim. It is of fine fabric. It belongs to Period II.
2. Fragment of a bowl of grey ware with incurved rim. It is of fine fabric with dark slip on the interior which continues up to the rim on the exterior. It belongs to Period II.

3. Fragment of a bowl of N.B.P. Ware with incurved rim. It belongs to Period I.
4. Variant of the above. It belongs to Period I.
5. Variant of the above with reddish blotches. It belongs to Period I.
6. Variant of the above. It belongs to Period I.
7. Variant of the above. It belongs to Period I.
8. Variant of the above. It belongs to Period I.
9. Variant of the above. It belongs to Period II.
10. Variant of the above. It belongs to Period II.
11. Fragment of a bowl of grey ware with incurved rim. It is of medium fabric with black slip inside and outside. It belongs to Period II.
12. Fragment of a bowl of N.B.P. Ware with incurved rim. It belongs to Period III.
13. Variant of the above. It belongs to Period I.
14. Variant of the above. It belongs to Period I.
15. Variant of the above. It belongs to Period I.
16. Variant of the above but with convex sides. It belongs to Period II.
17. Variant of the above. It belongs to Period I.
18. Variant of the above. It belongs to Period II.
19. Variant of the above but no convex sides. It belongs to Period II.
20. A cup of light grey ware with flared rim and flat base. It is of medium fabric with inclining incisions on the body. It belongs to Period I.
21. Fragment of a dish of N.B.P. Ware with simple vertical rim. It belongs to Period I.
22. Fragment of a dish of N.B.P. Ware with splayed out rim. It belongs to Period II.
23. A complete small sized dish of N.B.P. Ware with splayed out rim and thick wall. It belongs to Period II.
24. Fragment of a vase of N.B.P. Ware with flared rim. It belongs to Period I.
25. Fragment of a vase of N.B.P. Ware with flared rim and thin walls. Its core is grey. It belongs to Period II.
26. Fragment of a N.B.P. lid. Only the knob is preserved. It belongs to Period II.
27. Fragment of a bowl of N.B.P. Ware with incurved rim. It belongs to Period II.
28. Fragment of a bowl of N.B.P. Ware with flared rim and convex sides. It belongs to Period I.
29. Variant of the above. It belongs to Period II.
30. Fragment of a bowl of grey ware with thickened flared rim. It is of fine fabric. It belongs to Period I.
31. Fragment of a basin of red ware with incurved rim. It is of fine fabric with red slip and grey core. It belongs to Period III.
32. Fragment of a bowl of N.B.P. Ware with sharpened rim. It belongs to Period I.
33. Fragment of a bowl of N.B.P. Ware with flared rim. It belongs to Period I.
34. Fragment of a bowl of N.B.P. Ware with incurved rim and a carination on the waist. It belongs to Period I.
35. Fragment of a bowl of N.B.P. Ware with concave rim. It belongs to Period I.
36. Fragment of a dish of N.B.P. Ware with a ledge. It belongs to Period II.
37. Fragment of a bowl of N.B.P. Ware with flared and simple rim. It has got a silver polish. The bowl is rivetted by two copper strips of 7" x 2" in dimension with the help of two copper strips. It belongs to Period I.

38. Fragment of a bowl of N.B.P. Ware with incurved rim. On the inner side a leaf is incised, whereas on the outer side three leaf patterns and a crescented three-arched hill are incised. This is a unique specimen. It belongs to Period I. (Pl. LXXXII, 5)

### Miscellaneous Pottery

A number of spouted vessels has been found belonging to various periods; one of them is a *makara* designed one belonging to Period III.

The other type of the pottery is the spouted sprinkler. It is of red ware and belongs to Period IV. One sprinkler which belongs to Period III is of black ware.

The third type of pottery illustrated here is finials of grey ware with numerous flanges and several tiers. These finials belong to Period II.

A lid of red ware with an inscription *Bhasarva* is another interesting pottery illustrated here. It belongs to Period IV.

### FIG. 31

1. A spouted vessel of light red ware with beaked and grooved rim. It is of medium fabric with dark red slip outside. It belongs to Period IV.

2. Fragment of a spouted vessel with ridges on the shoulder. It is of medium fabric. It belongs to Period IV.

3. A lipped vessel of light red ware with flared rim of medium fabric. It is treated internally with bright red slip up to neck which continues externally up to the shoulder. It has a roughly potted base. It belongs to Period IV.

4. Fragment of a vase of light red ware with clubbed and grooved rim and corrugations on the neck. It is of medium fabric. It belongs to Period II.

5. Fragment of a spouted sprinkler of light red ware with red slip on the exterior. It has ridges on the shoulder. It is of medium fabric. The spout is not preserved. It belongs to Period IV.

The sprinklers have been found from a number of sites in the Gangetic basin and the Punjab from levels attributed to the Kushāṇa and the Gupta periods. From the south, we have also found sprinklers but they differ in fabric and polish.

6. A simple spout of a vessel of light red ware. It is of medium fabric. It belongs to Period I.

7. Fragment of a mouth of a sprinkler of red ware. It is of medium fabric. It belongs to Period II.

8. The *makara*-designed spout of a vessel of red ware. It is of medium fabric. It belongs to Period III.

9. The spout of a vessel with corrugations inside and outside of the walls. It is of medium fabric. It belongs to Period I.

10. A spout of a vessel with three perforation. It is of light red ware with gritty coarse fabric. It belongs to Period III.

11. Fragment of a vessel of red ware. The upper portion is broken. Probably it was a sprinkler. It is of medium fabric with ridges on the neck inside and outside and a carination on the shoulder. It has a foot-ring base. It belongs to Period IV.

12. Fragment of a bowl of light red colour with corrugated carination at the waist and a soot-stained exterior, which indicates that it served as a cooking vessel. It is of medium fabric and in mica-smeared body. It belongs to Period II.

## POTTERY,—MISCELLANEOUS.

13. Fragment of a ceremonial lid of light red ware with a lamp basin on the top at the centre. It is of medium fabric. Only the shoulder portion is preserved. It belongs to Period IV.

14. The spout of a vessel of light red ware with corrugations on the exterior. It is of medium gritty fabric. It belongs to Period II.

15-20. Fragments of finials of grey ware with numerous tiers. They are of the medium fabric and belong to Period II. These terracotta finials are very common at some other sites in India and they have a very wide range in the variety of their shapes.

21. Fragment of a vase of light red colour with out-turned beaked rim. It is of medium fabric with gritty core. It belongs to Period II.

22. Variant of the above but ridges on the neck. It belongs to Period II.

23. Fragment of a vase of red ware with out-turned beaked rim. It is of medium fabric with bluish gritty core. It belongs to Period I.

24. Variant of the above but of gritty coarse fabric. It belongs to Period I.

25. Variant of the above but with ridges on the neck and deep red slip inside and outside. It belongs to Period IV.

26. Fragment of a vessel of greyish red ware with out-turned beaked rim and grooved shoulder. It is of medium fabric. It belongs to Period IV.

27. Fragment of a long-necked vase with flared rim and corrugations inside. It is of medium fabric. It belongs to Period II.

28. Fragment of a vase of greyish red ware with externally beaded and internally beaked rim. It is of gritty coarse fabric. It belongs to Period III.

29. A lid of red ware with flanged rim. The wall at the base is thickened. There is an inscription *Bhasarva* inside the base. It is of medium fabric. It belongs to Period IV. (Pl. XXXV).

30. Fragment of a small vase of red ware with flared rim and corrugations on the exterior as well as on the interior. It is of medium fabric. It belongs to Period III.

## Miscellaneous Pottery

Noteworthy in the pottery illustrated here is the base of a dish of fine grey ware with concentric circles and a knob, belonging to Period I. Such dishes have been found at other places also. Excepting Fig. 32 No. 25 all are wheel-made.

The other type of important pottery is a vase of light red ware. It has an additional hole adjacent to the central channel; it belongs to Period IV (Fig. 33, Nos. 3, 7, 15).

FIG. 32

1. Fragment of a dish of light red ware with thickened rim. Walls are tapering towards the bottom; it has a saggar base. It is of medium fabric. It belongs to Period I.

2. Fragment of a dish of light red ware with thickened rim. It is of medium fabric. It belongs to Period I.

3. Fragment of a medium sized bowl of light red ware. It is of medium fabric. It belongs to Period I.

4. Fragment of a dish of grey ware with incurved rim. It is of medium fabric. It belongs to Period II.

5. Fragment of a dish of red ware with incurved rim and carination at the neck. It is of medium fabric. It belongs to Period II.

6. Fragment of a dish of red ware with flat and thickened rim and corrugation inside. It is of medium fabric. It belongs to Period III.
7. Fragment of a light red ware bowl with incurved rim and saggar base. Corrugations on the inside wall. It is of medium fabric. It belongs to Period III.
8. Fragment of a lid of light ochre colour with incurved rim and two carinations at the neck and the waist. It is of medium fabric. It belongs to Period II.
9. A small light red ware bowl with saggar base and very thick wall. It is of medium fabric. It belongs to Period III.
10. Fragment of a bowl with thick body and thin base. It is of medium fabric. It belongs to Period III.
11. A lamp of deep red ware with marks of sooting at the lip. It is of medium fabric. It belongs to Period III.
- 11A. Variant of the above. It belongs to Period III.
12. A ring or stand of light red ware with red slip. It is of medium fabric. It belongs to Period IV.
13. Variant of the above but with very thick walls. It belongs to Period I.
14. Fragment of the base of a dish of fine grey ware with two concentric circles and a knob in the middle. It belongs to Period I.
15. A small pot with flared rim. It is of medium fabric with light red ware. It belongs to Period IV.
16. Fragment of a small vase of light red ware with slightly everted rim. It is of medium fabric. It belongs to Period IV.
17. Fragment of a small vase of light red ware with flared rim and globular body. It is of very thin fabric. It belongs to Period III.
18. Fragment of a vase of red ware with everted rim. It is of medium fabric with red slip on the exterior. It belongs to Period I.
19. Fragment of a small sized vase of light red ware with thick rim and external corrugations on the body. It is of medium fabric. It belongs to Period II.
20. Fragment of a small sized ~~ware~~ with thickened rim and a ledge on the neck. It is of red ware with red slip on the exterior. It is of medium fabric. It belongs to Period II.
21. Fragment of a medium sized vase of red ware with flared rim. It is of medium fabric. It belongs to Period II.
22. Fragment of a small vase of light red ware with narrow mouth, flared rim and a ledge on the shoulder. It is of medium fabric. It belongs to Period II.
23. Fragment of a vase of red ware with very narrow mouth and grooves on the shoulder. It has globular body. It is of medium fabric. It belongs to Period III.
24. Fragment of a small sized vase of light grey ware with flared rim. It is of medium fabric. It belongs to Period IV.
25. Fragment of a vase of light red ware with flaring rim and narrow mouth. It is of coarse fabric and is hand-made. It belongs to Period IV.

FIG. 33

1. Fragment of a bowl of dark grey ware with thick and incurved rim and a corrugation on the exterior. It is of medium fabric. It belongs to Period I.
2. Fragment of a vase of red ware with thickened vertical rim and corrugations inside. It is of medium fabric. It belongs to Period I.
3. Fragment of a vase of light red ware with narrow neck. The distinguishing feature of this vase is that there is an additional hole adjacent to the central channel. In the Buddhist literature

we have got evidence to prove that such pots were in existence and were used by the monks. They were called *dharma-karaka*. (*Chulla-vagga* V, 3, 1, and VI, 21, 3) Such pots were also found at Tripuri (See *Tripuri*, 1952, by Dr. M. G. Dikshit). It is of medium fabric with deep red slip. It belongs to Period IV.

4. Fragment of a basin of light grey ware with vertical rim. It is of medium fabric. It belongs to Period I.

5. Fragment of a bowl of grey ware with flared and internally thickened rim and thin walls. It is of medium fabric with grey slip inside and outside. It belongs to Period I.

6. Fragment of a vase of red ware with thickened rim and corrugations inside. Badly baked. It belongs to Period I.

7. Variant of No. 3 above.

8. Fragment of a bowl of grey ware with corrugations on the exterior. It is of medium fabric. It belongs to Period III.

9. Fragment of a vase of light red ware with medium fabric and a mica-smeared body. It belongs to Period I.

10. Fragment of a dish of black ware with flat rim and a corrugation on the exterior. It is of medium fabric. It belongs to Period III.

11. Fragment of a vase of red ware with flat base and internally corrugated walls. It is of medium fabric with black slip internally as well as externally. It belongs to Period III.

12. Fragment of a bowl of light red ware. It is of gritty coarse fabric with light red slip on the exterior. It belongs to Period IV.

13. A cup of light red ware with flared rim and thick walls. It is of medium fabric. It belongs to Period II.

14. Fragment of a small pot of light red ware with sides tapering to a restricted disc base. It is of medium fabric, devoid of any slip and its core is grey. The type is indeed widespread and long lived. It is the commonest type and it is found more abundantly in the upper than in the lower strata. It belongs to Period II.

15. Variant of No. 7 above.

16. Fragment of a bowl of red ware with internally undercut rim and corrugations on the exterior. It is of medium fabric with red slip on the exterior. It belongs to Period III.

17. Variant of 13. It belongs to Period III.

18. Variant of No. 14 above. It belongs to Period III.

19. Fragment of an offering stand with a plain broken stem crowned by a bowl which is characterized by a flared mouth. It is of light red ware and gritty fabric. Sooting is visible. It is of medium fabric. It belongs to Period IV.

20. Fragment of a bowl of light ochre ware with incurved beaked rim. It is of medium fabric. It belongs to Period II.

21. Fragment of a bowl of light red ware with thickened clubbed rim. It is of medium fabric. It belongs to Period III.

22. Fragment of a vase of light red ware with flared rim and a long neck with corrugations on the interior. It is of medium fabric. It belongs to Period II.

23. Fragment of a vase of red ware with simple flared rim. It is of medium fabric with grey core. It belongs to Period II.

24. A stand of *damaru* shape of red ware. It is of medium fabric. It belongs to Period IV.

25. Fragment of a vase of red ware with flat and thin base. It is of medium fabric. It belongs to Period I.

26. Fragment of a bowl of red ware with long flanged rim. It is of medium fabric. It belongs to Period I.

27. Fragment of a vase of light red ware. It is of medium fabric with red slip on the exterior. It belongs to Period I.
28. Fragment of a vase of red ware with flared rim. It is of medium fabric. It belongs to Period III.
29. Fragment of the base of a vase of red ware with rounded base and corrugations on the interior. It is of medium fabric with blue core. It belongs to Period II.
30. Fragment of a bowl with beaked rim and decoration on the base. It is of medium fabric. It belongs to Period IV. Pl. LXXIII, No. 1.
31. Fragment of a vase of buff ware with flared, clubbed and flat rim. It is of medium fabric with red slip on the interior. It belongs to Period II.
32. Fragment of a well-made bowl of deep red ware. It has vertical walls with blunt end without rim. It belongs to Period IV.
33. Fragment of the base of a pot of red ware with thick and flat base. It is of medium fabric. It belongs to Period III.

FIG. 34 : *Miscellaneous Pottery*

1. Fragment of a big bowl of light red ware with incurved rim and grooved shoulder. It is of medium fabric with red slip inside. It belongs to Period II.
2. Fragment of a bowl of red ware with in-turned rim. It is of medium fabric. It belongs to Period III.
3. Fragment of a big bowl with incurved thickened rim, grooved on the shoulder and hollowed inside rim. It is of medium fabric with red slip inside. It belongs to Period II.
4. Variant of No. 2 above.
5. Fragment of a big bowl of light red ware with incurved thickened rim. It is of medium fabric. It belongs to Period II.
6. Fragment of a basin of light red ware with sharply incurved mouth and carination at the shoulder. It belongs to Period I.
7. Fragment of a basin of red ware with out-turned rim. Its fabric is fine with a deep red slip on the exterior. It is of medium fabric. It belongs to Period III.
8. Fragment of a dish of grey ware with incurved and thickened rim and two carinations outside. It is of medium fabric. It belongs to Period I.
9. Fragment of a dish of grey ware with incurved rim. It is of medium smooth fabric with traces of polished grey slip. It belongs to Period II.
10. Fragment of a dish of grey ware with incurved rim and two carinations outside. It is of medium fabric. It belongs to Period I.
11. Fragment of a medium sized dish of light red ware with incurved rim and two carinations outside. It is of smooth fabric. It belongs to Period I.
12. Fragment of a dish of red ware with incurved rim and two carinations outside. It is of medium fabric. It belongs to Period III.
13. Fragment of a dish of red ware with incurved rim. It is of medium fabric with red slip. It belongs to Period III.
14. Fragment of a dish of grey ware with incurved rim. It is of medium fabric. It belongs to Period III.
15. Fragment of a dish of light red ware with incurved rim and incisions on the exterior. It is of medium fabric. It belongs to Period III.
16. Fragment of a dish of light red ware with two carinations outside. It is of medium fabric. It belongs to Period II.

17. Fragment of a dish of light red ware with thick flared rim. It is of medium fabric. It belongs to Period II.
18. Fragment of a pot of light red ware with out-splayed rim. It is of medium fabric with red slip and marks of soot of cooking on the exterior of the base. It belongs to Period II.
19. Fragment of a vase of red ware with flared rim and grooved interior. It is of medium fabric with black core. It belongs to Period III.
20. Fragment of a vase of light ochre colour with flared beaked rim. It is of medium fabric with gritty core. It belongs to Period III.
21. Fragment of a vase of greyish red ware with out-turned rim. It is of gritty medium fabric. It belongs to Period III.
22. Variant of No. 20 above. It belongs to Period IV.
23. Variant of No. 21 above. It belongs to Period II.
24. Variant of No. 18 above. It belongs to Period III.
25. Variant of the above. It belongs to Period III.
26. Variant of No. 20 above. It belongs to Period III.
27. Fragment of a medium sized basin of red ware with splayed out rim. It is of medium fabric. It belongs to Period III.
28. Fragment of a vase of red ware with out-turned rim. It is of medium fabric and has red slip on the exterior. It belongs to Period III.

FIG. 35 : *Miscellaneous Pottery*

1. A miniature rimless elliptical vase of ochre coloured ware with pronouncedly concave base. It is of medium fabric with mica-smeared body. It belongs to Period II, where this type is common.
  2. Fragment of a miniature vase of ochre coloured ware with corrugated sides and concave base. It is of medium fabric. It belongs to Period II, where this type is common.
  3. A miniature cylindrical vase of ochre colour with corrugated sides and prominent flat base. It is of medium fabric. It belongs to Period II, where this type is common.
  4. Variant of the above. It belongs to Period II.
  5. A miniature bulbous vase of ochre coloured ware with flared rim and concave base. It is of medium fabric. It belongs to Period II.
- Vases of this type also become common from Period II.
6. Fragment of a vase of deep grey ware with flared and out-turned rim. It is of medium fabric. It belongs to Period II.
  7. A cylindrical vase of red ware internally grooved with flared rim. The base is concave. It belongs to Period III.
  8. A miniature cup of yellowish ware with flat and out-turned rim. It is of medium fabric with black slip. It belongs to period II.
  9. A miniature rimless lid of red ware with corrugations and concave base. It is of medium fabric. It belongs to period IV.
  10. A cup of red ware with flared rim and concave base. It is of medium fabric. Period II.
  11. Fragment of a vase of yellowish red ware with a thick rim. It is of medium fabric. It belongs to Period II.
  12. Fragment of a cylindrical rimless bowl. It is of medium fabric. It belongs to Period IV.
  13. A miniature cup of red ware with corrugations. It is of medium fabric. It belongs to Period IV.



14. Fragment of a vase of light red ware with externally thickened rim and a ledge on the shoulder. It belongs to Period II.
15. Fragment of a bowl of red ware with flared rim and a corrugation on the neck. It is of medium fabric. It belongs to Period III.
16. Fragment of a vase of red ware with out-turned rim and corrugations on the neck and grooves on the shoulder. It is of medium fabric with red slip on the exterior. It belongs to Period IV.
17. Fragment of a sprinkler of red ware. It belongs to Period IV.
18. Fragment of a sprinkler of black ware with the broken top. It is of medium fabric. It belongs to Period III.
19. Fragment of a sprinkler of red ware. For other types of the sprinkler see Fig. XXI, 5, 7, 11. It belongs to Period IV.

FIG. 36

*Miscellaneous Pottery*

1. Fragment of a vase of red <sup>wan</sup> bowl with thickened incurved rim. It is of medium fabric. It belongs to Period I.
2. Fragment of a bowl of red ware with flat rim. It is of medium fabric. It belongs to Period I.
3. A cup of light red ware with flared rim with round base. On the exterior of the base, there is a floral design. It is of medium fabric. It belongs to Period III. See No. 7 below.
4. Fragment of a rimless bowl with internally thickened rim of grey ware. It is of medium fabric with mica-smear body. It belongs to Period II.
5. Fragment of a bowl of red ware with thickened rim. It is of medium fabric. It belongs to Period I.
6. Fragment of a cup of red ware. It is of medium fabric. It belongs to Period III.
7. Plan of the decorated base of No. 3.
8. Fragment of a bowl of N.B.P. ware with flared rim. It belongs to Period II.
9. Fragment of a vase of red ware with clubbed flat rim. It is of medium fabric. It belongs to Period III.
10. Fragment of a basin of red ware with internally thickened rim and corrugations on the waist. It is of medium fabric. It belongs to Period I.
11. Fragment of a vase with corrugated neck. The exterior body is decorated with simple pattern. It is of medium fabric. It belongs to Period IV.
12. Fragment of a bowl of red ware with flared thickened rim and corrugation on the neck. It is of medium fabric. It belongs to Period IV.
13. Fragment of a vase of red ware with flared out-turned corrugated rim and long neck. It is of medium fabric with red slip on the interior as well as exterior. It belongs to Period II.
14. A vase of light red ware with out-turned beaded rim and corrugation on the waist. On the exterior body, there is linear pattern design. It is of medium fabric. It belongs to Period I.
15. Fragment of a basin of red ware with flat out-turned rim. It is of medium fabric with faint traces of red slip. It belongs to Period II.
16. Fragment of a dish of light red ware with incurved rim and thin wall. It is of medium fabric. It belongs to Period II.
17. Fragment of a dish of red ware with thickened incurved rim. It is of fine fabric. It belongs to Period I. Such dishes are common in this period.
18. Fragment of a vase of light red ware with flat rim and corrugations. Its sides are very thick. It is of coarse fabric and gritty core with mica-smear body. It belongs to Period III.
19. Fragment of a vase of deep grey ware with flat rim and long cylindrical neck. It is of medium fabric. It belongs to Period III.

## DECORATED POTSDHERDS.

20. Variant of No. 17 above. It belongs to Period I.
21. Variant of No. 17 above. It belongs to Period I.
22. A bowl of light red ware with incurved rim and thick sides. On the exterior there is the basket pattern design. It is of medium fabric. It belongs to Period II.
23. Fragment of a basin of light red ware with thickened flat rim, grooves on the shoulder and corrugations on the body. It is of medium fabric. It belongs to Period II.

~~Fig. 37~~

### *Decorated Potsherds*

On decorated potsherds, we have rich and numerous designs. Among the geometric designs may be mentioned lines, circles, parallelograms, triangles, incised triangles with perpendicular lines falling on their bases etc. The sun, the serpent and the peacock are also frequent. Trees and lotuses are common. These designs are sometimes stamped, sometimes incised and sometimes in relief. Hollow cross, three-arched Crescented Hill, and Tree-in-railing, which occur on cast and punch-marked coins are to be seen stamped on three fragments of dishes.

1. N.B.P. sherd. The outer side is decorated with the designs of three leaves and a Crescented Hill Pl. LXXIIA, No. 5.  
The inner side has a leafy design only.  
The designs were put after the baking of the pot. 1—Pl. LXXIIA, No. 6.
2. *Ibid*, but without decorations. The important thing to note is that this sherd was rivetted to another missing now, by means of a copper strip, which still adheres to the present sherd. No. 1242; KR IV Z E<sup>2</sup>—Pl. LIV, No. 5. See also Fig. 30·37.
3. *Ibid*. Same as the above. The copper strip is on the left hand side. No. 2301; KR VII J.—Pl. LIV, No. 4.
4. *Ibid*. Same as the above. The copper strip is on the right hand side. No. 2357; KR VII K.—Pl. LIV, No. 3.
5. Base of an ordinary pot decorated with various designs. The solar design is repeated four times. Surface find, KR IV.—Pl. LIV, No. 2.
6. Broken piece of a lid with a knob. It is decorated with linear and serpentine designs. Red ware. No. 2101; KRTE.—Pl. LIV, No. 6.
7. Base of a broken bowl, decorated with a beautiful peacock design. KRTVA.—Pl. LIV, No. 7.
8. Fragment of a decorated rim. No. 359; KR III N.—Pl. LXXII A, No. 2.
9. Fragment of a decorated rim. No. 2009; KR TA.—Pl. LXXIIA, No. 4.
10. A decorated piece of a potsherd. Decoration is in relief. No. 7008; KR TA.—Pl. LXVIIA, No. 3.
11. A broken fragment of a vase. It bears the letters *Dharmma*. No. 347; KR III N.—Pl. LXXIIA, No. 1.
12. Fragment of a pot, having indentations on the rim; the body of the bowl is decorated with a circle enclosing some incomplete geometric design, having dots in one corner. No. 727; KR II L.—Pl. LXXIII, No. 1. See also Fig. 33·30.
13. Fragment of a spouted pot. The spout is decorated with circlets. No. 1194; KR II S.—Pl. LXXIII, No. 2.
14. Potsherd, decorated with circular lines, enclosing stamped stars. No. 780; KR II L.—Pl. LXXIII, No. 3.
15. Fragment of a potsherd decorated with a parallelogram design between two circular lines. No. 2079; KR TG.—Pl. LXXIII, No. 4.

16. Fragment of a potsherd stamped with a circular design consisting of two crosses, crossing each other. No. 1214; KR II T.—Pl. LXXIII, No. 5.
17. Fragment of a rim decorated with an incised triangle with a perpendicular line falling on the base. No. 2075; G KR TC.—Pl. LXXIII, No. 6.
18. Fragment of a sherd decorated with fine circles, with lines below each. No. 1006; KR II P.—Pl. LXXIII, No. 7.
19. A rectangular sherd decorated with angular designs in relief. No. 907; KR II N.—Pl. LXXIII, No. 8.
20. A sherd decorated with two triangles enclosing a tree design. The first triangle is crude. The figures are incised. No. 397; KR IV N.—Pl. LXXIII, No. 9.
21. A sherd decorated with the lotus design enclosed within two arcs. No. 933; KR IV Z.—Pl. LXXIII, No. 10.
22. Fragment of a vase. The neck is decorated with a design consisting of short wavy line. The body is decorated with a solar symbol flanked by two trees. KR IV N.—Pl. LXXIII, No. 11.
23. Fragment of a potsherd, stamped with a design, which is only partly preserved. No. 1328; KR IV ZE.<sup>4</sup>—Pl. LXXIV, No. 1.
24. Fragment of a potsherd, bearing a stamped floral design or a circle with a dot in the centre surrounded by pellets. No. 776; KK II L.—Pl. LXXIV, No. 2.
25. Fragment of a potsherd, decorated with a leafy design. No. 7671; KR II L.—Pl. LXXIV, No. 3.
26. Fragment of a potsherd stamped with a design consisting of a vertical line flanked on either side by the hood of a serpent. No. 1129; KR 11 R.—Pl. LXXIV, No. 4.
27. Fragment of the neck of a pot bearing two stamps, of which only one is complete. It consists of two concentric circles with a knob in the centre surrounded by a dotted circle. No. 1; KR IV ZW<sup>2</sup>.—Pl. LXXIV, No. 5.
28. Fragment of the neck of a pot. Between two circular lines, there was a row of stamped designs, of which only three have been completely preserved. One of the designs is a triangular one with a circle below; it alternates with another which is made of a dotted circle. No. 396; KR IV L.—Pl. LXXIV, No. 6.
29. Fragment of a potsherd with two rows of the solar design. The lower one is decorated with honeycomb design. No. 399; KR III N.—Pl. LXXIV, No. 7.
30. A potsherd decorated with star enclosed in a circle. No. 2433; KR VII M.—Pl. LXXIV, No. 8.
31. A potsherd decorated with a stamp consisting of a knob, surrounded first by a circle, then by a circle of knobs, and then again by a circle. No. 1194; KR IV ZE<sup>1</sup>.—Pl. LXXIV, No. 9.
32. A potsherd decorated with a stamp similar to the above but having a further dotted circle outside. No. 9; KR IV.—Pl. LXXIV, No. 10.
33. A potsherd bearing a circular stamp having Hollow Cross below a Cresceted Hill and Tree in railing to their right. This sherd will show that stamps were made of some of the symbols on cast and punch-marked coins. No. 124; KR IV ZE<sup>2</sup>.—Pl. LXXIV, No. 11.
34. A potsherd with a stamp containing Cresceted Hill and Hollow Cross (only partly preserved). No. 153; KR VII C.—Pl. LXXIV, No. 12.
35. A potsherd with an incomplete stamp in which only Cresceted Hill is visible. KR IV G.—Pl. LXXIV, No. 13.

## A NOTE ON THE OCHRE WARE

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A few samples of ochre ware belonging to Period II were examined by me. It appears that the original surface of the ware has been largely destroyed by the prolonged action of water. It is, therefore, difficult to say whether any surface finish in the form of slip, glaze, wash etc., existed originally, as due to weathering, the surface has completely broken down and no trace of such a surface finish can now be detected. No other distinctive features could be detected in the samples of "ochre ware" and the results of chemical examination lead us to the conclusion that an ordinary ferruginous clay was used for the fabrication of this ware and that it was subjected to low temperature firing in the range 300-500°C, as the quartz grains present in the clay do not show any marked fracture.

The weathering of the ware may be due to prolonged water-logging or to the slow and prolonged action of sub-soil moisture coupled with injurious soluble salts. For the breaking down of the surface, it is not necessary that the ware should be subjected to prolonged water-logging. The conditions favourable for weathering may be present in the soil itself on account of sub-soil moisture containing carbon dioxide and soluble salts. Whether these sherds are similar to those found in the lower levels at Hastinapur and Bhadurabad is more than can be said in the present state of our knowledge, so far as the Kumrahar excavations are concerned. For one thing, the sherds from Hastinapur and Bhadurabad have been found to be rather 'rolled', but the Kumrahar specimens do not show such 'rolling'. Although this feature of rolling may have nothing to do with the technique of fabrication of the ware and may only indicate fluvial transportation of the sherds, the other features such as texture of the ware, thickness, etc., seem to indicate that the ware from Kumrahar was produced by a superior technique and may, therefore, be later than the 'rolled' ochre wash ware from Hastinapur and Bhadurabad.

## CHAPTER VI

### EXCAVATED FINDS

#### A. COINS

COINS are to a great extent helpful in determining the chronology of an excavated site. Altogether 165 good coins have come from our excavated area of which 20 are of silver and the rest are of copper or of copper coated with silver. We found no gold coins.

These coins may be broadly divided into seven groups: (1a) Punch-marked silver coins; (1b) Punch-marked silver-plated coins; (1c) Punch-marked copper coins; (2) Cast copper coins; (3) Coins of the Lankey Bull type of Kauśāmbī; (4) Pañchāla and Ayo-dhyā coins; (5) Kushāṇa copper coins; (6) Gupta copper coins; (7) Coins of the Mughal period.

Only legible coins are catalogued below.

#### 1 (a) *Punch-marked Silver Coins*

The stratification shows that the punch-marked silver coins were current at Kumrahar down to the early levels of the Kushāṇa period *c.* 150 A.D. We have not found any silver punch-marked coin belonging to Period I.

S. No.    Reg. No.

- |   |      |  |
|---|------|--|
| 1 | 19   | <i>Size.</i> : .5" × .45"; wt. 44.5 grains.<br><i>Obv.</i> : Sun, Three-arched Hill, traces of Six-armed Symbol, two indistinct symbols.<br><i>Rev.</i> : Three-arched Hill.<br><i>Condition</i> : Fresh in Look.<br><i>Cf.</i> : <i>N. S.</i> , No. XLV Pl. XX, 125 and J., <i>B.M.C.</i> , <i>A. I.</i> , cl. I, Gr. I.<br><i>Locus</i> : KR III A, Period IV.   |
| 2 | 330  | <i>Size</i> : .5" sq.; wt. 30.5 grains.<br><i>Obv.</i> : Sun; other symbols are indistinct.<br><i>Rev.</i> : Completely blurred.<br><i>Locus</i> : KR V H; Period II.  |
| 3 | 346  | <i>Size</i> : .5" × .4"; wt. 39 grains.<br><i>Obv.</i> : Completely blurred.<br><i>Rev.</i> : Completely blurred.<br>Cut at one edge to adjust the weight.<br><i>Locus</i> : KR V H; Period II.  |
| 4 | 820  | <i>Size</i> : .55" × .5"; wt. 34.75 grains.<br><i>Condition</i> : Fresh; clipped in one corner.<br><i>Obv.</i> : Six-armed Symbol with three Arrows and three Taurines alternately placed, Caduceus, Sun, Three-arched Hill, and two indistinct symbols. Pl. LXIX A, No. 1.<br><i>Rev.</i> : Caduceus blurred.<br><i>Cf.</i> : <i>B.M.C.</i> , <i>A. I.</i> cl. 2, Gr. F.<br><i>Locus</i> : KR II L; Period III. |
| 5 | 1285 | <i>Size</i> : .6" × .55"; wt. 41 grains.<br><i>Obv.</i> : Sun, Crescented Hill, Elephant, Six-armed Symbol and an Animal.<br><i>Rev.</i> : Crescented Hill.  |

- Cf.*: B.M.C., A.I., p. 11, Class I, Group I.  
*Locus*: KR IV ZE<sup>3</sup>; Period II.
- 6      347      *Size*: .45" sq.; wt. 34.5 grains.  
*Obv.*: Completely blurred.  
*Rev.*: Completely blurred.  
*Condition*: Cut at one edge to adjust the weight.  
*Locus*: KR V H; Period II.
- 7      KR      *Size*: .5" × .4"; wt. 37.5 grains.  
*Obv.*: Completely blurred.  
*Rev.*: Completely blurred.  
*Locus*: Found in the dump of earlier excavations.
- 8      331      *Size*: .7" in diameter; wt. 33 grains.  
*Obv.*: Sun, small Taurine in an oval; probably part of the Six-armed Symbol.  
*Rev.*: Completely blurred. Pl. LXIX A, No. 3  
*Locus*: KR V H; Period II.
- 9      335      *Size*: .6" sq.; wt. 35 grains.  
*Obv.*: Sun and faint traces of other symbols.  
*Rev.*: Blurred.  
*Locus*: KR V H; Period II.
- 10      719      *Size*: .65" × .5"; wt. 22 grains.  
*Obv.*: Six-armed Symbol, three Arrows and three Taurines alternately placed, Three-arched Crescenced Hill, Sun and faint traces of an Elephant.  
*Rev.*: Three-arched Hill, other symbol indistinct. Pl. LXIX B, No. 7.  
*Condition*: Cut at one edge.  
*Cf.*: B.M.C., A.I. I, Ia.  
*Locus*: KR II L; Period III.
- 11      R      *Size*: .5" × .4"; wt. 31 grains.  
*Obv.*: Faint traces of symbols.  
*Rev.*: Blank. Base silver.  
*Locus*: KR III; Period III.
- 12      1527      *Size*: .5" × .4"; wt. 40.40 grains.  
*Obv.*: Sun, Six-armed Symbol, Three-arched Crescenced Hill, Bull, and one indistinct symbol. Pl. LXIX A, No. 5.  
*Rev.*: Indistinct.  
*Condition*: Cut at two corners of the same side.  
*Locus*: KR IV XB; Period III.
- 13      1904      *Size*: .5" × .5"; wt. 32.56 grains. Metal impure.  
*Obv.*: Blurred but probably included Sun, Six-armed Symbol, and Crescenced three-arched Hill.  
*Rev.*: Indistinct.  
*Locus*: KR IV XE<sup>3</sup>; Period III.
- 14      1952      *Size*: .6" × .4"; wt. 37.34 grains. Metal impure.  
*Obv.*: Sun, Six-armed Symbol, Three-arched Crescenced Hill; others indistinct.  
*Rev.*: Blurred.  
*Condition*: Clipped in one corner.  
*Locus*: KR IV XE<sup>5</sup>; Period III.
- 15      1952A      *Size*: .6" × .4"; wt. 35.97 grains.  
*Obv.*: Six-armed Symbol, Three-arched Crescenced Hill, Bull and Tree in railing. Pl. LXIX A, No. 2.  
*Rev.*: Taxila Symbol.

- 16 1954 *Condition:* Clipped in one corner. Symbols indistinct.  
*Locus:* KR IV ZE<sup>5</sup>; Period III.  
*Size:* .5" × .4"; wt. 34.5 grains.  
*Obv.:* Sun, Six-armed Symbol with three Taurines, and three Arrow-heads, Three-arched Crescenced Hill, Square containing four symbols of which Taurine is one and one more which is indistinct. Pl. LXIX A, No. 4.  
*Rev.:* Blurred, but probably Caduceus.  
*Condition:* Clipped at two edges.  
*Locus:* KR IV XE<sup>5</sup>; Period III.
- 17 2138 *Size:* .45"; wt. 34 grains.  
*Obv.:* Sun, Three-arched Crescenced Hill, Caduceus, Taurine. and an indistinct symbol.  
*Rev.:* Indistinct symbol.  
*Locus:* KR TF; Period II.
- 18 2677 *Size:* .5" × .4"; wt. 41.12 grains.  
*Obv.:* Three-arched Crescenced Hill, Sun, Six-armed Symbol; two other symbols indistinct. Pl. LXIX A, No. 6.  
*Rev.:* Blurred.  
*Locus:* KR TN; Period II
- 19 2085 *Size:* .55" × .5"; wt. 29.21 grains two.  
*Obv.:* Sun, Taurine, Caduceus; and other symbols blurred.  
*Rev.:* Blurred.  
*Locus:* KR TD; Period II.
- 20 1 *Size:* .6" square; wt. 35 grains.  
*Obv.:* Sun, Three-arched Crescenced Hill, Human Figure(?) faint traces of two other symbols.  
*Rev.:* Faint traces of Caduceus.  
*Locus:* KR VII. Surface. Pl. LXIX B, No. 8.

1 (b) *Silver-coated coins*

The following eight coins were found together in KR III all belonging to Period III. When discovered, they appeared to be silver; but after cleansing turned out to be copper. The weights of two of these coins (64.5 grains and 41 grains) are seen to be corresponding with the normal weight of punch-marked coins. The weights of the rest are quite irregular. It appears that they were originally copper punch-marked coins and subsequently coated with silver.

- 21 S *Size:* .6" square; wt. 50 grains.  
*Obv.:* Blurred symbols.  
*Rev.:* Blank.
- 22 T *Size:* .8" × .45"; wt. 77.5 grains.  
*Obv.:* Blurred.  
*Rev.:* Blurred.
- 23 U *Size:* .55" sq.; wt. 55 grains.  
*Obv.:* An incuse line in the centre.  
*Rev.:* Blurred.
- 24 V *Size:* .6" × .5"; wt. 64.5 grains.  
*Obv.:* An indented line; faint traces of symbols.  
*Rev.:* Traces of an indented line.
- 25 W *Size:* .5" × .4"; wt. 39.5 grains.  
*Obv.:* Bow with an arrow-string. Three-arched Crescenced Hill.  
*Rev.:* Blank.

# COINS

26	X	<i>Size:</i> .6" × .5"; wt. 41 grains. It is parallelogram in shape. <i>Obv.:</i> Faint traces of symbols. <i>Rev.:</i> Blank.
27	Y	<i>Size:</i> .7" × .5"; wt. 74 grains. <i>Obv.:</i> Blurred. <i>Rev.:</i> Blurred; faint traces of symbols.
28	Z	<i>Size:</i> .8" × .45"; wt. 37.5 grains. <i>Obv.:</i> Faint traces of Bull. <i>Rev.:</i> Blurred.

*N.B.*—It appears that the silver punch-marked coins were in circulation here upto the early levels of Period III.

## 1 (c) Punch-marked Copper Coins

S. No.	Reg. No.	
1	356	<i>Size:</i> 1.2" × .5"; wt. 85 grains. A copper piece resembling in size and shape a bent bar silver coin of Taxila type. Faint traces of two circular symbols on convex side; other symbols blurred. A copper bent bar coin of this type is not found so far. <i>Locus:</i> KR V J; Period II.
2	922A	<i>Size:</i> .6" × .5"; wt. 69 grains. <i>Obv.:</i> Blurred. <i>Rev.:</i> Blurred. <i>Locus:</i> KR IV Z; Period I.
3	929	<i>Size:</i> .8" × .4"; wt. 59 grains. <i>Obv.:</i> Taurine and another indistinct symbol on one side. <i>Rev.:</i> Blurred. <i>Condition:</i> Cut at one edge. <i>Locus:</i> KR IV Z; Period I.
4	H	<i>Size:</i> .55" × .55"; wt. 32 grains. <i>Obv.:</i> Completely blurred. <i>Rev.:</i> Completely blurred. It may have been a thin variety of the punch-marked type. <i>Locus:</i> KR IV C; Period III.
5	975Z <sup>77</sup>	<i>Size:</i> .6" × .45"; wt. 33 grains. <i>Obv.:</i> Completely blurred. <i>Rev.:</i> Completely blurred. <i>Condition:</i> Cut at one edge. <i>Locus:</i> KR II N; Period III.
6	52	<i>Size:</i> .6" × .4"; wt. 18 grains. <i>Obv.:</i> Blurred. <i>Rev.:</i> Blurred. <i>Condition:</i> Fragmentary. <i>Locus:</i> KR A <sup>1</sup> ; Period II.
7	922	<i>Size:</i> .8" × .4"; wt. 79 grains. <i>Obv.:</i> One big Six-armed Symbol with alternate Taurines and Arrow-heads. <i>Rev.:</i> Blurred. <i>Locus:</i> KR IV Z; Period I.
8	1191	<i>Size:</i> .7" × .5"; wt. 56 grains. <i>Obv.:</i> Blurred.



- |    |      |   |
|----|------|---|
|    |      | <i>Rev.</i> : Blurred.                                  |
|    |      | <i>Locus</i> : KR IV ZE <sup>1</sup> ; Period III.      |
| 9  | 7    | <i>Size</i> : .6" × .5"; wt. 50 grains.                 |
|    |      | <i>Obv.</i> : Blurred.                                  |
|    |      | <i>Rev.</i> : Blurred.                                  |
|    |      | <i>Locus</i> : KR VI; Period III.                       |
| 10 | 101  | <i>Size</i> : .5" × .35"; wt. 23.5 grains.              |
|    |      | <i>Obv.</i> : Sun in one corner; other symbols blurred. |
|    |      | <i>Rev.</i> : Blurred.                                  |
|    |      | <i>Locus</i> : KR V; Surface.                           |
| 11 | 102  | <i>Size</i> : .8" × .5"; wt. 58 grains.                 |
|    |      | <i>Obv.</i> : Blurred.                                  |
|    |      | <i>Rev.</i> : Blurred.                                  |
|    |      | <i>Locus</i> : KR V; Surface.                           |
| 12 | 1117 | <i>Size</i> : .5" × .5"; wt. 38 grains.                 |
|    |      | <i>Obv.</i> : Blurred.                                  |
|    |      | <i>Rev.</i> : Blurred.                                  |
|    |      | <i>Locus</i> : KR II R; Period III.                     |
| 13 | 1212 | <i>Size</i> : .7" × .5"; wt. 22 grains. A thin coin.    |
|    |      | <i>Obv.</i> : Blurred.                                  |
|    |      | <i>Rev.</i> : Blurred.                                  |
|    |      | <i>Locus</i> : KR II T; Period III.                     |
| 14 | 1206 | <i>Size</i> : .7" × .65"; wt. 146.5 grains.             |
|    |      | <i>Obv.</i> : Blurred.                                  |
|    |      | <i>Rev.</i> : Blurred.                                  |
|    |      | <i>Locus</i> : KR II.                                   |
| 15 | 1416 | <i>Size</i> : .45" × .4"; wt. 8 grains.                 |
|    |      | <i>Obv.</i> : Tree in railing, blurred.                 |
|    |      | <i>Rev.</i> : Faint traces of symbols.                  |
|    |      | <i>Locus</i> : KR IV XB; Period II.                     |
| 16 | 1522 | <i>Size</i> : .6" × .45"; wt. 35 grains.                |
|    |      | <i>Obv.</i> : Indistinct symbols.                       |
|    |      | <i>Rev.</i> : Indistinct symbols.                       |
|    |      | <i>Locus</i> : KR IV XB; Period II.                     |
| 17 | 1707 | <i>Size</i> : .8" × .45"; wt. 47 grains.                |
|    |      | <i>Obv.</i> : Blurred.                                  |
|    |      | <i>Rev.</i> : Blurred.                                  |
|    |      | <i>Locus</i> : KR II; Period II.                        |
| 18 | 1953 | <i>Size</i> : .7" × .4"; wt. 39 grains.                 |
|    |      | <i>Obv.</i> : Blurred.                                  |
|    |      | <i>Rev.</i> : Blurred.                                  |
|    |      | <i>Locus</i> : KR IV XE <sup>5</sup> ; Period II.       |
| 19 | 2346 | <i>Size</i> : .8" × .45"; wt. 37.5 grains.              |
|    |      | <i>Obv.</i> : Bull at bottom; other symbols blurred.    |
|    |      | <i>Rev.</i> : Blurred.                                  |
|    |      | <i>Condition</i> : Clipped at one corner.               |
|    |      | <i>Locus</i> : KR VII K; Period II.                     |
| 20 | 2355 | <i>Size</i> : .6" × .45"; wt. 21.5 grains.              |
|    |      | <i>Obv.</i> : Blurred.                                  |
|    |      | <i>Rev.</i> : Blurred.                                  |
|    |      | <i>Locus</i> : KR VII K; Period II.                     |

Pl. LXIX B, No. 9.

# COINS

- |    |       |   |
|----|-------|---|
| 21 | 2302  | <i>Size:</i> .5" × .5"; wt. 30.5 grains.<br><i>Obv.:</i> Sun; other symbols blurred.<br><i>Rev.:</i> Blurred<br><i>Locus:</i> KR VII J.; Period I.  |
| 22 | 2327  | <i>Size:</i> .6" × .5"; wt. 47 grains.<br><i>Obv.:</i> Blurred.<br><i>Rev.:</i> Blurred.<br><i>Locus:</i> KR VIII C; Period III.  |
| 23 | 2567  | <i>Size:</i> .7" × .6"; wt. 122 grains.<br><i>Obv.:</i> Blurred.<br><i>Rev.:</i> Blurred.<br><i>Locus:</i> KR VII P; Period III.  |
| 24 | 2553  | <i>Size:</i> .5" × .45"; wt. 44 grains.<br><i>Obv.:</i> Blurred.<br><i>Rev.:</i> Blurred.<br><i>Locus:</i> KR VII P; Period III.  |
| 25 | 2104  | <i>Size:</i> .6" × .55"; wt. 78.5 grains.<br><i>Obv.:</i> Blurred.<br><i>Rev.:</i> Blurred.<br><i>Locus:</i> KR TE; Period III.   |
| 26 | 2378  | <i>Size:</i> .7" × .6"; wt. 54 grains.<br><i>Obv.:</i> Faint traces of an indistinct symbol.<br><i>Rev.:</i> Indistinct symbol.<br><i>Locus:</i> KR VII L; Period II.   |
| 27 | 2087  | <i>Size:</i> .5" × .4"; wt. 26 grains.<br><i>Obv.:</i> Blurred.<br><i>Rev.:</i> Blurred.<br><i>Locus:</i> KR TD; Period I.  |
| 28 | 2425J | <i>Size:</i> .65" × .55"; wt. 47.5 grains.<br><i>Obv.:</i> Sun; other symbols blurred.<br><i>Rev.:</i> Sun; other symbols blurred.<br><i>Locus:</i> KR TG; Period III.  |
| 29 | 2328  | <i>Size:</i> .7" × .6"; wt. 59 grains.<br><i>Obv.:</i> Blurred.<br><i>Rev.:</i> Blurred.<br><i>Locus:</i> KR VIII C; Period II.   |
| 30 | 2252  | <i>Size:</i> .6" × .5"; wt. 49 grains.<br><i>Obv.:</i> Blurred.<br><i>Rev.:</i> Blurred.<br><i>Locus:</i> KR VIII A; Period II.   |
| 31 | 1232  | <i>Size:</i> .7" × .4"; wt. 79.84 grains.<br><i>Obv.:</i> Three-arched Crescented Hill at one corner. Another impression of symbol at the other diagonal corner not clear.<br><i>Rev.:</i> A big symbol, most likely Six-armed Symbol.<br><i>Locus:</i> KR IV ZE <sup>a</sup> ; Period III. |
| 32 | 1351  | <i>Size:</i> .6" × .45"; wt. 24.42 grains.<br><i>Obv.:</i> Blurred.<br><i>Rev.:</i> Blurred.<br><i>Locus:</i> KR IV ZW <sup>a</sup> ; Period III.   |

## 2. Cast Copper Coins

The stratification shows that these coins were in use during the Śuṅga and the Kushāṇa periods, though a few survived in the Gupta age also. In the limited Mauryan stratum we excavated, we did not find them.

S. No.	Reg. No.	
1	563	<i>Size:</i> .6" × .5"; wt. 52 grains. <i>Obv.:</i> Tree in railing, Elephant, Three-arched Cresceted Hill and Svastika. <i>Rev.:</i> Cresceted Three-arched Hill, Tree in railing and Hollow Cross. <i>Locus:</i> KR II K; Period III.
2	702	<i>Size:</i> .65" × .5"; wt. 49 grains. <i>Obv.:</i> Elephant. <i>Rev.:</i> Tree in railing. Hollow Cross and Three-arched Cresceted Hill. <i>Locus:</i> KR II L; Period III.
3	923	<i>Size:</i> .5" × .45"; wt. 44 grains. <i>Obv.:</i> Elephant and Hollow Cross. <i>Rev.:</i> Tree in railing, Three-arched Cresceted Hill, V-shaped Banner and Taurine. <i>Locus:</i> KR IV Z; Period II.
4	986	<i>Size:</i> .6" × .55"; wt. 37 grains. <i>Obv.:</i> Elephant, Hollow Cross, Banner and Taurine. <i>Rev.:</i> Three-arched Cresceted Hill, Tree in railing, Banner and Taurine. <i>Locus:</i> KR IV ZE; Period III.
5	991	<i>Size:</i> .6" × .45"; wt. 25.5 grains. <i>Obv.:</i> Blurred symbols. <i>Rev.:</i> Completely blurred. <i>Locus:</i> KR IV ZE; Period I.
6	996	<i>Size:</i> .55" × .5"; wt. 35 grains. <i>Obv.:</i> Blurred symbols. <i>Rev.:</i> Completely blurred. <i>Locus:</i> KR IV ZE; Period I.
7	1072	<i>Size:</i> .3" × .2"; wt. 13 grains. <i>Obv.:</i> Elephant. <i>Rev.:</i> Hollow Cross. <i>Condition:</i> Fragmentary. <i>Locus:</i> KR IV ZW; Period I.
8	1233	<i>Size:</i> .5" × .5"; wt. 40 grains. <i>Obv.:</i> Elephant and Hollow Cross. <i>Rev.:</i> Sun, Three-arched Cresceted Hill and Tree in railing. <i>Locus:</i> KR IV ZE <sup>7</sup> ; Period III.
9	975Z <sup>70</sup>	<i>Size:</i> .6" × .5"; wt. 44 grains. <i>Obv.:</i> Elephant, V-shaped Banner and Hollow Cross. <i>Rev.:</i> Tree in railing, Three-arched Cresceted Hill, V-shaped Banner and Taurine. <i>Locus:</i> KR II N; Period III.
10	977Z <sup>79</sup>	<i>Size:</i> .5" × .5"; wt. 13.5 grains. A thin piece. <i>Obv.:</i> Blurred; faint traces of an animal. <i>Rev.:</i> Blurred completely. <i>Locus:</i> KR II N; Period I.

Pl. LXX A, No. 11

# COINS

- |    |                    |   |                    |
|----|--------------------|---|--------------------|
| 11 | 975Z <sup>72</sup> | <i>Size:</i> .4" × .4"; wt. 6 grains. A thin, small and light coin.<br><i>Obv.:</i> Symbols blurred.<br><i>Rev.:</i> Blurred.<br><i>Locus:</i> KR II N; Period II.  |                    |
| 12 | 936                | <i>Size:</i> .5" Square; wt. 35 grains.<br><i>Obv.:</i> Blurred.<br><i>Rev.:</i> Traces of Three-arched Crescenced Hill.<br><i>Locus:</i> KR IV Z; Period I.  |                    |
| 13 | 975                | <i>Size:</i> .6" × .45"; wt. 5 grains. A thin coin.<br><i>Obv.:</i> Blurred.<br><i>Rev.:</i> Blurred.<br><i>Locus:</i> KR II N; Period III.   |                    |
| 14 | A                  | <i>Size:</i> .6" Square; wt. 44 grains.<br><i>Obv.:</i> Elephant, Svastika, V-shaped Banner and Taurine.<br><i>Rev.:</i> Hollow Cross, Tree in railing and Three-arched Crescenced Hill.<br><i>Locus:</i> KR II F; Period III.                |                    |
| 15 | D                  | <i>Size:</i> .6" × .55"; wt. 30 grains.<br><i>Obv.:</i> Elephant, Tree in railing, and Taurine.<br><i>Rev.:</i> Three-arched Crescenced Hill, Hollow Cross and Tree in railing.<br><i>Locus:</i> KR II F; Period III.                         |                    |
| 16 | L                  | <i>Size:</i> .6" × .5"; wt. 37 grains.<br><i>Obv.:</i> Elephant, Hollow Cross and V-shaped Banner.<br><i>Rev.:</i> Three-arched Crescenced Hill, Tree in railing and V-topped Banner.<br><i>Locus:</i> KR II D; Surface.                      |                    |
| 17 | nil                | <i>Size:</i> .5" Square; wt. 14.5 grains.<br><i>Obv.:</i> Elephant, V-topped Banner, Taurine, and another symbol blurred.<br><i>Rev.:</i> Elephant, Tree in railing and two other symbols blurred.<br><i>Locus:</i> KR II B, Surface.         |                    |
| 18 | 697                | <i>Size:</i> .6" × .5"; wt. 37 grains.<br><i>Obv.:</i> Three-arched Crescenced Hill, V-shaped Banner, Taurine and Tree in railing.<br><i>Rev.:</i> Elephant, Svastika and Hollow Cross.<br><i>Locus:</i> KR II L; Period III.                 | Pl. LXX A, No. 17  |
| 19 | 9                  | <i>Size:</i> .5" × .45"; wt. 12 grains.<br><i>Obv.:</i> Blurred. Faint traces of an Elephant.<br><i>Rev.:</i> Completely blurred.<br><i>Locus:</i> KR V A; Period II.   |                    |
| 20 | p                  | <i>Size:</i> .6" × .5"; wt. 15 grains.<br><i>Obv.:</i> Symbols blurred.<br><i>Rev.:</i> Only Hollow Cross clear.<br><i>Locus:</i> KR III; Period III.   |                    |
| 21 | nil                | <i>Size:</i> .5" × .4"; wt. 15.3 gr.<br><i>Obv.:</i> Three-arched Crescenced Hill.<br><i>Rev.:</i> Elephant.<br><i>Locus:</i> From the dump of earlier excavations.   |                    |
| 22 | 961                | <i>Size:</i> .5" in diameter; wt. 26 grains.<br><i>Obv.:</i> Three-arched Crescenced Hill.<br><i>Rev.:</i> Elephant (blurred).<br>Notice the knob left at the place from where the metal was poured in.<br><i>Locus:</i> KR II N; Period III. | Pl. LXX A, No. 14. |

23	1240	Size: .5" in diameter; 14 grains. Obv.: Three-arched Crescented Hill. Rev.: Elephant. Locus: KR IV ZE <sup>2</sup> ; Period I.	35	1195	Size: .5" × .45"; wt. 27 grains. Obv.: Blurred. Rev.: Blurred. Locus: KR II S; Period III.
24	9	Size: .5" × .3"; wt. 5.5 grains. Obv.: Three-arched Crescented Hill(?). Rev.: Elephant. A very light coin of a different fabric. Locus: KR III; Period IV.	36	1222	Size: .6" × .5"; wt. 34 grains. Obv.: Hollow Cross, Three-arched Crescented Hill, Tree in railing. Rev.: Elephant before a Standard, Svastika, Taurine. Locus: KR II T; Period II. Pl. LXX A, No. 15
25	nil	Size: .5" in diameter; wt. 33 grains. Obv.: Three-arched Crescented Hill. Rev.: Elephant. Locus: KR IV; surface. Pl. LXX A, No.	37	1226	Size: .6" Sq.; but fragmentary wt. 20 grains. Obv.: Hollow Cross, Three-arched Crescented Hill and other symbols blurred. Rev.: Faint traces of symbols. Locus: KR II T; Period III.
26	nil	Size: 1" × .45"; wt. 33 grains. Obv.: Three-arched Crescented Hill. Rev.: Elephant. Two coins joined together, as they were when taken out of the m Locus: KR IV; surface.	39	1657	Size: .4" in diameter; wt. 7.5 grains. Obv.: Three-arched Crescented Hill. Rev.: Elephant. Locus: KR IV XC; Period I.
27	51	Size: .6" square; wt. 42 grains. Obv.: Tree in railing, Three-arched Crescented Hill and Taurine. Rev.: Elephant before a post; other symbols blurred. Locus: KR VII A; Period II.	40	1720	Size: .5" square; wt. 40 grains. Obv.: Hollow Cross, Tree in railing, other symbols blurred. Rev.: Elephant before a post. Locus: KR IV XE; Period III.
28	109	Size: .5" × .4"; wt. 11 grains. Obv.: Elephant. Rev.: Three-arched Crescented Hill. Locus: KR VII B; Period II.	1	1721	Size: .45" in diameter; wt. 14 grains. Obv.: Probably Elephant. Rev.: Probably Three-arched Hill. Locus: KR IV XE; Period III.
29	155	Size: .5" sq.; wt. 61.5 grains. Obv.: Tree in railing, Hollow Cross, Crescented Hill and Taurine. Rev.: V-topped Banner, Svastika, Elephant and one more blurred symbol Locus: KR VII C; Period II.	2	1733	Size: .6" × .5"; wt. 27 grains. Obv.: Three-arched Crescented Hill, Hollow Cross, Tree in railing. Rev.: V-topped Banner; Svastika, Elephant, Taurine. Locus: KR IV XE; Period III.
30	158	Size: .5" in diameter; wt. 17 grains. Obv.: Three-arched Crescented Hill. Rev.: Elephant. Locus: KR VII C; Period II.	1905		Size: .5" in diameter; wt. 20 grains. Obv.: Elephant. Rev.: Three-arched Crescented Hill. Locus: KR IV XE <sup>3</sup> ; Period III.
31	158A	Size: .5" × .45"; wt. 16 grains. Obv.: As above. Rev.: As above. Locus: KR VII C; Period I.	1955		Size: .45" in diameter; wt. 12 grains. Obv.: Tree in railing. Rev.: Blurred. Locus: KR IV XE <sup>5</sup> ; Period III.
32	158B	Size: .5" in diameter; wt. 14 grains. Obv.: As above. Rev.: As above. Locus: KR VII C; Period II.	2566		Size: .6" × .5"; wt. 26 grains. Obv.: Tree in railing, Elephant. Rev.: Tree in railing, Three-arched Crescented Hill, Taurine, V-topped Banner. Condition: Broken. Locus: KR VII P; Period II.
33	351	Size: .5" sq.; wt. 37.5 grains. Obv.: Hollow Cross, traces of Three-arched Crescented Hill and Tree railing, other symbols blurred. Rev.: Blurred. Locus: KR III N; Period III.	45	2655	Size: .4" × .25"; wt. 10 grains. Obv.: Blurred. Rev.: Three-arched Crescented Hill, Hollow Cross. Condition: Broken. Locus: KR TM; Period II.
34	1110	Size: .6" × .5"; wt. 64 grains. Obv.: Faint traces of Tree in railing. Rev.: Blurred. Locus: KR II R; Period III.	46	2600 C	Size: .4" × .3"; wt. 5.5 grains. Obv.: Blurred. Rev.: Blurred. Condition: Broken. Locus: KR Baulk TK and TM.

- 47      2558      *Size:* .6" × .5"; wt. 33 grains.  
*Obv.:* Elephant, Svastika, Taurine, V-topped Banner.  
*Rev.:* Tree in railing, Three-arched Crescenced Hill, Hollow Cross.  
*Locus:* KR VII, Period I.
- 48      2178      *Size:* .5" square; wt. 22 grains.  
*Obv.:* Elephant.  
*Rev.:* Tree in railing.  
*Locus:* KR VII G.
- 49      2583      *Size:* .45" in diameter; wt. 22 grains.  
*Obv.:* Elephant.  
*Rev.:* Three-arched Crescenced Hill.  
*Locus:* KR TK, Period II.
- 50      11      *Size:* .6" × .5"; wt. 33 grains.  
*Obv.:* Elephant, Taurine and V-topped Banner.  
*Rev.:* Tree in railing, Taurine, Three-arched Crescenced Hill and Hollow Cross.  
*Locus:* KR VII; surface.
- 51      2641      *Size:* .6" Sq.; wt. 20 grains.  
*Obv.:* Elephant, Svastika and V-topped Banner.  
*Rev.:* Tree in railing, Taurine, Three-arched Crescenced Hill and Hollow Cross.  
*Locus:* KR VII R, Period II.
- 52      2351      *Size:* .6" sq.; wt. 26 grains.  
*Obv.:* Blurred.  
*Rev.:* Blurred.  
*Locus:* KR VII K, Period III.
- 53      2151      *Size:* .5" sq.; wt. 18 grains.  
*Obv.:* Elephant, Svastika and other symbols blurred.  
*Rev.:* Tree in railing, Hollow Cross, Three-arched Crescenced Hill.  
*Locus:* KR VII, Period III.
- 54      2425C      *Dia.:* .4" in diameter; wt. 15 grains.  
*Obv.:* Elephant.  
*Rev.:* Three-arched Crescenced Hill.  
*Locus:* KR TG, Period II.
- 55      2096      *Size:* .6" × .45"; wt. 23 grains.  
*Obv.:* Blurred.  
*Rev.:* Blurred.  
*Locus:* KR TD, Period II.
- 56      2642      *Size:* .6" × .5"; wt. 33 grains.  
*Obv.:* Blurred.  
*Rev.:* Tree in railing, Taurine, Three-arched Crescenced Hill and Hollow Cross.  
*Locus:* KR VII R, Period II.
- 57      2482      *Size:* .5" in diameter; wt. 18 grains.  
*Obv.:* Blurred.  
*Rev.:* Blurred.  
*Locus:* KR TJ, Period II.
- 58      13      *Size:* .45" in diameter; wt. 11 grains.  
*Obv.:* Elephant.  
*Rev.:* Three-arched Crescenced Hill.  
*Locus:* KR VII Surface.

COINS

- |    |      |  |
|----|------|--|
| 59 | 2555 | <i>Size:</i> .35" fragmentary; wt. 8 grains.<br><i>Obv.:</i> Blurred.<br><i>Rev.:</i> Blurred.<br><i>Condition:</i> Broken.<br><i>Locus:</i> KR VII, Period II.  |
| 60 | 2261 | <i>Size:</i> .6" × .4"; wt. 18 grains.<br><i>Obv.:</i> Blurred.<br><i>Rev.:</i> Blurred.<br><i>Condition:</i> Broken.<br><i>Locus:</i> KR VII A, Period II.  |
| 61 | 2432 | <i>Size:</i> .6" × .55"; wt. 44 grains.<br><i>Obv.:</i> Elephant, Taurine, V-topped Banner.<br><i>Rev.:</i> Tree in railing, Three-arched Crescented Hill, Hollow Cross.<br><i>Locus:</i> KR VII M, Period III.                              |
| 62 | 2412 | <i>Size:</i> .6" sq.; wt. 25 grains.<br><i>Obv.:</i> Elephant, Svastika, Taurine, V-topped Banner.<br><i>Rev.:</i> Tree in railing, Three-arched Crescented Hill, Hollow Cross.<br><i>Locus:</i> KR TG, Period III.                          |
| 63 | 2097 | <i>Size:</i> .6" × .5"; wt. 32 grains.<br><i>Obv.:</i> Elephant, Svastika, Taurine, V-topped Banner.<br><i>Rev.:</i> Tree in railing, Hollow Cross, other symbols blurred.<br><i>Locus:</i> KR TD, Period III.                               |
| 64 | 2026 | <i>Size:</i> .4" × .3"; wt. 6 grains.<br><i>Obv.:</i> Blurred.<br><i>Rev.:</i> Indistinct.<br><i>Condition:</i> Broken.<br><i>Locus:</i> KR TB, Period III.  |
| 65 | 2422 | <i>Size:</i> .5" × .5" × ; wt. 26 grains.<br><i>Obv.:</i> Elephant, Taurine, V-topped Banner.<br><i>Rev.:</i> Tree in railing, Three-arched Crescented Hill, other symbols indistinct.<br><i>Locus:</i> KR TG, Period II.                    |
| 66 | 2678 | <i>Size:</i> .55" × .5"; wt. 39 grains.<br><i>Obv.:</i> Elephant, other symbols blurred.<br><i>Rev.:</i> Tree in railing, Three-arched Crescented Hill, Svastika, fourth symbol blurred.<br><i>Locus:</i> KR Baulk of TA and TB, Period III. |
| 67 | 200B | <i>Size:</i> .6" in diameter; wt. 21 grains.<br><i>Obv.:</i> Blurred; probably Three-arched Crescented Hill.<br><i>Rev.:</i> Blurred; probably an animal.<br><i>Locus:</i> KR TD, Period II.   |
| 68 | 5    | <i>Size:</i> .55" sq.; wt. 39 grains.<br><i>Obv.:</i> Elephant, V-topped Banner, other symbols blurred.<br><i>Rev.:</i> Tree in railing, Three-arched Crescented Hill, other symbols blurred.<br><i>Locus:</i> KR Tomb, Surface.             |
| 69 | 2638 | <i>Size:</i> .6" sq.; wt. 35 grains.<br><i>Obv.:</i> Elephant before Banner.<br><i>Rev.:</i> Faint traces of Tree in a railing.<br><i>Locus:</i> KR VII R, Period II.  |
| 70 | 2640 | <i>Size:</i> .5" × .4"; wt. 22 grains.<br><i>Obv.:</i> Tree in railing.<br><i>Rev.:</i> Elephant before Banner.  |

S. No.	Reg. No.	
		<i>Condition:</i> Broken coin with protrusion. <i>Locus:</i> KR VII R, Period II.
71	2425	<i>Size:</i> .45 × .4"; wt. 2 grains. <i>Condition:</i> Broken and blurred. <i>Locus:</i> KR TG.
72	2574	<i>Size:</i> .45" in diameter; wt. 25 grains. <i>Obv.:</i> Blurred. <i>Mev.:</i> Blurred. <i>Locus:</i> KR VII P and K baulk.
 <i>3. Coins of the Lankey Bull Type of Kausāmbī: Copper</i>		
1	352	<i>Size:</i> .7" in diameter; roughly round but broken; wt. 20 grains. <i>Obv.:</i> A leafy tree in railing; some indistinct symbols on the left; and the right side broken. Pl. LXX A, No. 13. <i>Rev.:</i> Very much blurred, possibly Elephant before a Tree. This type was the popular one at Kausāmbī. Before c 100 B.C. <i>Locus:</i> KR IV. Period II.
2	1056	<i>Size:</i> .8" in diameter; wt. 22 grains. <i>Obv.:</i> A thin coin; symbols blurred; size and weight resemble to some extent light Kausāmbī coins of this type. <i>Locus:</i> KR IV ZW, Period II.
3	51	<i>Size:</i> .85" in diameter, round; wt. 29 grains. Before cleansing there were clear traces on this coin of Tree in railing as on Kausāmbī coins. <i>Locus:</i> KR IV; Period II.
4	2088	<i>Size:</i> .8" in diameter; wt. 29 grains. <i>Obv.:</i> A leafy Tree in railing; Wheel, and some indistinct symbols on the left and the right. <i>Rev.:</i> Elephant before a standard and some indistinct symbols. Pl. LXX A, No. 16. <i>Locus:</i> KR TD, Period II.
5	2279	<i>Size:</i> .7" in diameter; wt. 38.98 grains; broken. <i>Obv.:</i> Tree in railing; other symbols indistinct. <i>Rev.:</i> An animal, probably Bull, before a Standard. Pl. LXX A, No. 12. <i>Locus:</i> KR VIII B extension.
6	2126	<i>Size:</i> .75" in diameter; wt. 30.77 grains. <i>Obv.:</i> Tree in railing. <i>Rev.:</i> Indistinct. <i>Locus:</i> KR, Pillared Hall SE.

#### 4. Pañchāla and Ayodhyā Coins

##### PAÑCHĀLA COIN OF BHŪMIMITRA

1	5	<i>Size:</i> .5" in diameter; wt. 50 grains. <i>Obv.:</i> Above: Three Pañchāla symbols. Below : <i>Bhūmimitasa</i> . <i>Rev.:</i> Blurred figure of Goddess Earth. <i>Locus:</i> KR VII; Period II. Pl. LXX B, No. 19.
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## AYODHYĀ COINS

- 1            4        *Size*: .7" in diameter; wt. 78.5 grains.  
*Obv.*: A Bull before blurred Standard or Spear.  
*Rev.*: Blurred, probably a cock.  
*Locus*: KR TT; Surface. Pl. LXIX B, No. 10.

5. *Kushāṇa Coins*

We have found the following Kushāṇa coins. They are all in copper and round.

## KING KANISHKA

- | S. No. | Reg. No.          |   |                    |
|--------|-------------------|---|--------------------|
| 1      | 975Z <sup>a</sup> | <i>Dia.</i> : 1"; wt. 225 grains.<br><i>Obv.</i> : King standing and offering oblations.<br><i>Rev.</i> : A deity standing.<br><i>Locus</i> : KR II N.                          | Pl. LXX B, No. 20. |
| 2      | 2001              | <i>Dia.</i> : 1"; wt. 221 grains.<br><i>Obv.</i> : King standing and offering sacrifice.<br><i>Rev.</i> : Vāta, god of wind, running.<br><i>Locus</i> : KR IV XE <sup>6</sup> . |                    |

## KING HUVISHKA

- |   |      |  |                    |
|---|------|--|--------------------|
| 3 | 163  | <i>Dia.</i> : .95"; wt. 206 grains.<br><i>Obv.</i> : King seated cross-legged.<br><i>Rev.</i> : A deity standing.<br>No inscription is legible, but the type makes it clear that the issuer is Huvishka.<br><i>Locus</i> : KR IV K. unidentified   | Pl. LXX B, No. 21. |
| 4 | 144  | <i>Dia.</i> : 1"; wt. 215 grains.<br><i>Obv.</i> : King standing with standard facing left and apparently offering oblations. Copper coins with two deities facing not known. On gold coins we have the Sun and the Moon and CKANDO KOMAPO BIZATO. Probably this is a coin of Kanishka or Huvishka.<br><i>Locus</i> : KR II C, Period III. |                    |
| 5 | 773  | <i>Dia.</i> : 1"; wt. 215 grains.<br><i>Obv.</i> : Blurred.<br><i>Rev.</i> : Blurred.<br>The type and fabric make it clear that the coin is a Kushāṇa issue.<br><i>Locus</i> : KR II L, Period III.  |                    |
| 6 | 2276 | <i>Dia.</i> : 1"; wt. 170 grains.<br><i>Obv.</i> : Blurred.<br><i>Rev.</i> : Blurred.<br>The type and fabric make it clear that it is a Kushāṇa issue.<br><i>Locus</i> : KR VIII B, Period III.  |                    |
| 7 | 2563 | <i>Dia.</i> : .6"; wt. 96.5 grains.<br><i>Obv.</i> : Faint traces of the king.<br><i>Rev.</i> : A deity standing.<br><i>Locus</i> : KR VII P; Period III.  |                    |

## 6. Gupta Coins

The excavation has to its credit the discovery of the following copper Gupta coins. They all are the issues of Chandragupta II. In some cases the attribution is clear, but in others it is presumed from the type. They are all round in shape. They may be divided into the following four groups:

- (a) Bust of the king to left; (b) King standing and holding flower in right hand bent up; (c) King standing and offering oblations by right hand; (d) King with umbrella-bearer.

## (a) BUST OF THE KING TO LEFT

S. No.	Reg. No.	
1	19	<i>Dia.</i> : .3"; wt. 4 grains, very thin. <i>Obv.</i> : Bust of king to left. <i>Rev.</i> : Upper half broken, but showing the feet of Garuḍa. Lower half, legend, <i>Indragupta</i> being quite clear. Type VII of <i>B.M.C., G.D.</i> , but in the size and weight of Type VIII. <i>Locus</i> : KR III B.
2	20	<i>Dia.</i> : .4"; wt. 7 grains. <i>Obv.</i> : Bust of the king to left. <i>Rev.</i> : Upper half: Garuḍa, half preserved. Lower half, <i>Chandragupta</i> in small characters. Type VII of <i>B.M.C., G.D.</i> , cf. Pl. XI, No. 19. <i>Locus</i> : KR III B.
3	205	<i>Dia.</i> : .4"; wt. 70 grains. <i>Obv.</i> : Bust of king to left. <i>Rev.</i> : Upper half, Garuḍa. Lower half, legend, <i>Indragupta</i> quite distinct. <i>Cf.</i> : <i>B.M.C.G.D.</i> , XI.
4	426	<i>Dia.</i> : .5"; wt. 18 grains. <i>Obv.</i> : Bust of king to left. <i>Rev.</i> : Upper half—Garuḍa. Lower half—legend, <i>Chandragupta</i> . <i>Locus</i> : KR III.
5	85	<i>Dia.</i> : .6"; wt. 27 grains. <i>Obv.</i> : King standing left, arm akimbo, right hand raised up and holding a flower. <i>Rev.</i> : Upper half, Garuḍa. Lower half, <i>Śrī Chandragupta</i> . <i>Locus</i> : KR IV J. Pl. LXX B, No. 22.

## (b) KING STANDING AND HOLDING FLOWER IN RIGHT HAND BENT UP

6	114	<i>Dia.</i> : .4"; wt. 5.5 grains. <i>Obv.</i> : King standing. <i>Rev.</i> : Blurred, but traces of Garuḍa with wings stretched in the upper half, and the legend below. <i>Condition</i> : Broken. Similar to <i>B.M.C.G.D.</i> , Pl. XI, 9 but smaller and lighter. <i>Locus</i> : KR III C.
7	2379	<i>Dia.</i> : .5"; wt. 19.5 grains. <i>Obv.</i> : King standing. <i>Rev.</i> : Garuḍa in upper half and blurred legend below. <i>Locus</i> : KR VII L.

# COINS

S. No. Reg. No.

- 8 350B *Dia.*: .45"; wt. 16 grains.  
*Obv.*: King standing, right hand upraised and left hand akimbo.  
*Rev.*: Garuḍa in the upper half and legend, *Chandragupta* in the lower half.  
*Cf.*: *B.M.C., G.D.*, Pl. XI B.  
*Locus*: KR V H. Pl. LXX B, No. 25.
- 9 2228 *Dia.*: .7"; wt. 45 grains.  
*Obv.*: King standing to left, right arm akimbo and left hand holding a flower.  
*Rev.*: Upper half, Garuḍa. Lower half, legend *Chandragupta*.  
*Locus*: KR VII surface. Pl. LXX B, No. 24.
- 10 200 *Dia.*: .5"; wt. 12 grains.  
*Obv.*: King standing, probably holding a flower in his right hand, up-raised.  
*Rev.*: Upper half, Garuḍa with wings outstretched.  
Lower half, faint traces of the legend.  
*Cf.*: *B.M.C., G.D.*, Pl. XI 8, which is, however, bigger and heavier.  
*Locus*: KR III.
- 11 324 *Dia.*: .6"; wt. 33 grains.  
*Obv.*: King standing with hand bent up.  
*Rev.*: Garuḍa.  
*Legend*: -*dragu*-.  
*Cf.*: *B.M.C., G.D.*,  
*Locus*: KR V H.

## (c) KING STANDING AND OFFERING OBLATIONS BY RIGHT HAND

- 12 117 *Dia.*: .5"; wt. 12 grains.  
*Obv.*: King standing offering oblations at altar by right hand.  
*Rev.*: Faint traces of Garuḍa standing in the upper half and of the legend in the lower half.  
*Cf.*: Similar to *B.M.C., G.D.*, Pl. XI, No. 9.  
*Locus*: KR VD.
- 13 311 *Dia.*: .6"; wt. 35 grains.  
*Obv.*: Faint traces of king standing and offering oblations at altar by hand.  
*Rev.*: Upper half, very faint traces of Garuḍa.  
Lower half, faint traces of a legend.  
*Cf.*: *B.M.C., G.D.*,  
*Locus*: KR V H.
- 14 204 *Dia.*: .5"; wt. 7 grains.  
*Obv.*: King standing to right and offering oblations at altar.  
*Rev.*: Upper half, Garuḍa with outstretched wings.  
Lower half, legend *Chandragupta*.  
*Cf.*: *B.M.C.G., D.*, Pl. XI 9. The king on the obverse is more complete on this coin and can be distinctly seen as offering oblations.  
*Locus*: KR VI.

## (d) KING STANDING WITH AN UMBRELLA-BEARER BEHIND

- 15 nil *Dia.*: .7"; wt. 47 grains.  
*Obv.*: King standing to left with an umbrella-bearer behind him.  
*Rev.*: Upper half, Garuḍa.  
Lower half, legend, illegible. Pl. LXX B, No. 23.  
*Locus*: KR V A.

S. No.	Reg. No.	
16	206	<i>Size:</i> .45" × .35"; wt. 10 grains. <i>Obv.:</i> Blurred. <i>Rev.:</i> Blurred. From the weight and size it seems to be a coin of Chandragupta II. <i>Locus:</i> KR V F.
17	336	<i>Dia.:</i> .4"; wt. 19.5 grains. <i>Obv.:</i> Completely blurred. <i>Rev.:</i> Probably traces of a Garuḍa. <i>Locus:</i> KR V H.
18	1051	<i>Dia.:</i> .4"; wt. 12 grains. <i>Obv.:</i> Blurred. <i>Rev.:</i> Upper half, faint traces of Garuḍa. Lower half, legend <i>Chandragupta</i> . <i>Locus:</i> KR IV ZW.
19	2227	<i>Dia.:</i> .6"; wt. 22 grains. <i>Obv.:</i> Faint traces of standing king. <i>Rev.:</i> Blurred. <i>Locus:</i> KR VIII.

### 7. *Mughal Coins*

The following six Muslim coins were found in the upper-most layers. They were not associated with any structures. Except Serial No. 3 all are copper coins.

S. No.	Reg. No.	
1	351	<i>Size:</i> .75"; wt. 298 grains. <i>Obv.:</i> Shahjahan. <i>Rev.:</i> Blurred. <i>Cf.:</i> <i>P.M.C.</i> Vol. II, No. 1458. <i>Locus:</i> KR V J.
2	350	<i>Size:</i> .7"; wt. 299 grains. <i>Obv.:</i> Shahjahan. Probably Udaipur Mint. <i>Rev.:</i> Defaced, similar to No. 351 above. <i>Cf. P.M.C.,</i> Vol. II, No. 1458. <i>Locus:</i> KR V H.
3	2557	<i>Size:</i> .8"; wt. 170 grains, metal, silver. <i>Obv.:</i> Alamgir II [Badshah Ghazi] 1168 A.H. <i>Rev.:</i> Juloos 2. <i>Locus:</i> KR VII P.
4	301	<i>Size:</i> 1"; wt. 200 grains. <i>Obv.:</i> Shah Alam <i>Rev.:</i> Reg. Yr. 22. <i>Locus:</i> KR V H.
5	1	<i>Size:</i> 1.1"; wt. 175 grains. <i>Obv.:</i> Shah Alam. <i>Rev.:</i> Reg. Yr. 37—Murshidabad Mint <i>Locus:</i> KR II.
6	8	<i>Size:</i> .95"; wt. 87 grains. <i>Obv.:</i> Shah Alam [Badshah Juloos] <i>Rev.:</i> In Urdu and Hindi the legend — <i>EK Pai Sikā</i> with a <i>triśūla</i> symbol. <i>Locus:</i> KR surface.

## B. TERRACOTTA SEAL AND SEALINGS

In the excavations at Kumrahar, we have found one seal and fifty sealings, all in terracotta; some of these are oval and some circular. Some bear symbols and are un-inscribed, while others though inscribed, do not have any symbols. Out of these only one belongs to the Period II (c. 150 B.C.-A.D. 100) two to the Period III (c. A.D. 100-300), and the rest to Periods IV and V. Generally the field is divided into two parts, by a horizontal line<sup>1</sup>, the upper one having symbols or animals and the lower one having the legend.

(i) *Sealing of Period II* (c. 150 B.C. to A.D. 100)

1. A clay sealing with four letters in one line; fragmentary.

Legend—*Subhāva(vā)śa(sa)*—auspicious dwelling.

Size .6" × .3". Shape oval. No. 4 KR VII.

Pl. XXXIII, No. 8.

(ii) *Sealings of Period III* (c. 100 A.D. to 300 A.D.)

2. Upper half—The plan of a building.

Lower half—Legend with three letters, *Saghasa*<sup>2</sup>.

Size 1.45" × 1.3". Shape, oval and broken. No. 3 KR II S.

Pl. XXXII, No. 1.

3. A clay sealing with three letters in one line.

Legend—*Roha(i)ni(n)*; *ha* is of the eastern variety.

Size .6" × .4". Shape oval. No. 1193. KR II S.

Pl. XXXIII, No. 5.

(iii) *Seals and Sealings of Periods IV - V* (c. 300 - 600 A.D.)(a) *Inscribed Sealings*

4. Upper half—A tree probably *Bhodhivrikṣha*, with conch on either side.

Lower half—Line 1—*Śrī-ārogyavihāre bhi-*

Line 2—*kṣhusaṃghasya*

Translation : 'Seal of the monastic community in sanatorium-monastery.'

Buddhist monasteries are known to have maintained hospitals or sanatoriums, but this is the first seal to be discovered of a monastery-cum-sanatorium.

Size 1.65" × 1.3". Shape, oval. No. 17. KR IV D.

Pl. XXXII, No. 5.

5. Upper half—An indistinct symbol, consisting of two vertical lines in between two horizontal lines between top and bottom with two *śikhara* like projections at the top.

Lower half—Legend—*Svāmināga*.

Size .7" × .4". Shape, oval. No. 7. KR IV J.

Pl. XXXIII, No. 3.

6. Upper half—Wheel at the top. Below it, two conches on either side.

Lower half—Legend—*Śarma*.

Size .55" × .4". Shape, oval. No. 154. KR IV K.

Pl. XXXII, No. 11.

<sup>1</sup>The following sealings, however, have been divided into two parts by a pair of horizontal lines: 4, 6 to 14, 16 to 20 and 22.

<sup>2</sup>This is a unique sealing as it shows the plan of a monastery. It seems that the plan of the monastery was approved by the Bhikṣhu-Saṃgha before its execution or it had been adopted as a monogram for the seal of the Saṃgha residing in that monastery. It is known from the Buddhist scriptures that a Vihāra (monastery) was built under the supervision of an overseer selected by the Saṃgha.

7. Upper half—An indistinct symbol. Flower coming out of a vase.  
Lower half—Legend, *Bhagasi(m)hasya*  
Thumb impressions of the modeller is visible on the back of the sealing.  
Size 1.25" × .9". Shape, oval. No. 715. KR IV baulk between D and G. Pl. XXXII, No. 4.
8. Upper half—In the centre a spouted vessel with a lid. A conch on the left and a serpent on the right.  
Lower half—Legend, *Tambolikarmasya*.  
This seal is very important. It seems that there was a guild or trade union of betel sellers.<sup>1</sup>  
Size .9" × .7". Shape, oval. No. 711. KR IV baulk between D and E. Pl. XXXIII, No. 10.
9. Upper half—Dharmachakra in the centre with conch on either side.  
Lower half—Legend not very clear. Probably *Amśumāna*.  
Size .5" × .45". Shape almost circular. No. 164. KR IV K. Pl. XXXIII, No. 12.
10. Division of the field by a pair of horizontal lines.  
Upper half—Peacock.  
Lower half—Legend—Indistinct.  
Size .7" × .5". Shape, oval. No. 713. KR IV baulk between D and E. Pl. XXXIII, No. 1.
11. Fragmentary. Upper half—Three symbols. The symbol in the centre is indistinct. Dharmachakra on the left and an animal on the right of the central symbol.  
Lower half—Legend, *Devam*. . . . .  
Size .7". Shape, oval, broken. No. 975 Z<sup>20</sup>. KR II N. Pl. XXXIII, No. 14.
12. Upper half—Dharmachakra.  
Lower half—Legend, *Rāmasvāmi*.  
Size 1.05" × .8". Shape, oval. No. 1196. KR IV ZE<sup>1</sup>-ZE<sup>2</sup> Baulk. Pl. XXXIV A, No. 7.
13. Upper half—Nandī.  
Lower half—Legend, *Vishṇunandī*.  
Size .9" × .8". Shape, oval. No. 832. KR II L. Pl. XXXII, No. 7.
14. Upper half—Nandī.  
Lower half, Legend, *Īśvaraḍa(ā)sa*.  
Size 1' × .85". Shape, oval. No. 975Z<sup>66</sup>. KR II N. Pl. XXXII, No. 10.
15. Sealing with two impressions side by side. Left impression is smaller than the right.  
Smaller Impression—Upper half—Nandī.  
Lower half—Indistinct legend in one line.  
Bigger Impression—Upper half—Three symbols;  
probably a standard on the left.  
Lower half—Indistinct legend in two lines.  
Size 1' × .7".; 1.75" × 1.35". Shape, oval. No. 7. KR III B. Pl. XXXII, No. 8.
16. Upper half—Dharmachakra in the centre with two indistinct animals (deer?) on either side.  
Lower half—Legend, *Sarvasya sambhūti*.<sup>2</sup>  
Size 1.1" × .8". Shape, oval. No. 354. KR III N. Pl. XXXII, No. 6.
17. Upper half—Dharmachakra.  
Lower half—Legend—*Disa.kari(i)ndra*.  
Size 1.3". × 1". Shape, oval. No. 1051. KR II Q. Pl. XXXII, No. 2.
18. Upper half—Indistinct symbol.  
Lower half—Legend, indistinct—*Ba.dhara(?)*.  
Size .65" × .5" Shape, oval. No. 1001. KR II P. Pl. XXXIII, No. 2.

<sup>1</sup> Cf. *Mitāksharā*, Vyavahārādhyāya line 30. While explaining *śreni*, the commentary says that it consisted of persons of different castes following one profession; *tambūlikas* are mentioned as one type of *śrenis*.

<sup>2</sup> It may be *sarvasya sukriti* also.

## TERRACOTTA SEALS AND SEALINGS

19. Upper half—Dharmachakra with deer on either side.  
Lower half—Legend, *Viśvamitra*<sup>1</sup>.  
Size 1·05" × 7" Shape, oval. No. 53. KR IV surface. Pl. XXXIII, No. 13.
  20. Upper half—Altar(?) blurred.  
Lower half—Blurred. Legend, *Tu*.....  
Size 1·4" × 6" Shape, oval. No. 335. KR III N. Pl. XXXIV A, No. 4.
  21. Upper half—Indistinct symbol.  
Lower half—Legend, *Sidhathasa*<sup>2</sup>.  
Size 5" × 5" Shape, circular. No. 1102. KR II R. Pl. XXXIII, No. 6.
  22. Upper half—Dharmachakra in the centre with two indistinct symbols on either side.  
Lower half—Legend—(*Nā*)*gadina*.  
Size 7" × 6" Shape, oval, broken. No. 1701. KR IV XE. Pl. XXXIII, No. 4.
  23. Field divided by one line.  
Upper half—Dharmachakra.  
Lower half—Legend, *Dharma*.  
Palm impression of the modeller is visible on the back of the sealing.  
Size 1·3" × 1·25" Shape, circular. No. 336. KR III N. Pl. XXXIV A, No. 1.
  24. Upper half—Nandī in front of a tree in a railing.  
Lower half—Legend, *Bhadrasena*.  
Size 1·05" × 7" Shape, oval. No. 1107. KR II R. Pl. XXXII, No. 9.
  25. Within an oval shaped design with rays darting out on all sides.  
Legend, *Bhamasyandi*.....  
Size 1·2" × 5" Shape, oval. No. 350A. KR VH. Pl. XXXIV A, No. 3.
  26. Upper half—Dharmachakra.  
Lower half—Legend...*Su(sa)ttato*  
Size 1" in diameter. Shape, circular and broken. No. 376. KR III N.
- (b) *Uninscribed Sealings*
27. A small sealing with Svastika symbol.  
Size 38" × 3" Shape circular but irregular. No. 1115. KR II R.
  - 27A. A clay seal with solar orb; not in a good condition.  
Size 6" × 3" Shape, oval. No. 25. KR III B.
  28. A bull at the top probably on a ball shaped pedestal. Finger prints on the reverse which prove that it was taken from a mould.  
Size 1·1" in diameter. No. 714. KR IV G. baulk between D and G. Pl. XXXIV A, No. 6.
  29. A human figure standing cross-legged.  
Size 5" × 35" Shape, oval. No. 1114. KR III R. Pl. XXXIII, No. 7.
  30. Wheel motif.  
Size 45" in diameter. No. 1511. KR IV X B. Pl. XXXIII, No. 9.
  31. Seal with Sun with radiating rays.  
Size 1·1" × 7" Shape, oval. No. 1. KR IV Surface. Pl. XXXIV A, No. 5.
  32. An indistinct animal, elephant?  
Size 5" × 4" No. 393. KR III N. Pl. XXXIV A, No. 2.
  33. Nine animals and a bird with wheel in the centre.  
Size 1·4" in diameter. Shape, circular. No. 1. KR Surface.

<sup>1</sup>The original Sanskrit form is *Viśvamitra*.

<sup>2</sup>The original Sanskrit form is *Siddhārthasya*.

(c) *Blurred Sealings*

34. Blurred.  
Size .6" in diameter. No. 960. KR II N.
35. Upper half—Dharmachakra in the centre with a deer on either side.  
Lower half—Legend in two lines. Blurred.  
Thumb impressions of the modeller is visible on the back of the sealing.  
Size 1.6" × 1.2" Shape, oval. No. 367. KR III N.
36. Sealing with one line legend. Blurred.  
Size .8" × .5" Shape, parallelogram. No. 1879. KR IV XD, extension.
37. Blurred.  
Size .8" × .6" Shape, oval. No. 6. KR I A<sup>1</sup>.
38. Considerably blurred, but has probably the symbol of a conventional tree.  
Size 1.1" in diameter. No. 1277. KR IV ZE<sup>3</sup>.
39. Blurred.  
Size .8" in diameter. No. 975Z<sup>4</sup>. KR II N.
40. Blurred.  
Size 1.35" × .9" Shape, oval. No. 975R. KR II N.
41. Blurred seal.  
Size 1.35" × 1.2" Shape, oval. No. 1702. KR IV XE.
42. Blurred.  
Size .6" × .55" Shape, almost circular. No. 157. KR IV K.
43. Completely blurred.  
Shape, circular. Diameter, .5" No. 788. KR II L.
44. Sealing with one line legend.  
Size .5" × .35" Shape, oval. No. 1514. KR IV XB.
45. Blurred.  
Shape, circular. Diameter, .5". No. 2. KR VII.
46. Blurred.  
Size .95" × .8" Shape, oval and broken. No. 379. KR III N.
47. Blurred.  
Shape, circular. Diameter, .5". No. 1882. KR IV XD.
48. Blurred.  
Shape, circular. Diameter, .5". No. 1106. KR II R.
49. Blurred.  
Size .4" × .35" Shape, almost circular. No. 137A. KR IV K.
50. Indistinct legend of one line.  
Considerably thick. Blurred.  
Shape, rectangular. Diameter, .5" No. 57.
51. Blurred.  
Shape, circular. Diameter, .65" No. 1509. KR IV XB.

C. INSCRIBED POTSDERDS

Eleven inscribed potsherds were found. They are inscribed either on the base or the rim or the body of the pot. Their palaeography is of some assistance to us in determining the age of the strata wherein they were found. One potsherd (Sl. No. 9) belongs to the first century B.C. while the rest hail from the Gupta or the late Gupta period (c. A.D. 300-600). The palaeography of the inscriptions of these potsherds reveals



a carelessness in inscribing, which is usually absent in contemporary stone or copper plate inscriptions. The most important potsherds which have been found from the excavations are Śl. Nos. 1 and 3. The first of these bears the inscription (*Ā*)*rogyavihāre* and the second has the inscription (*Dha*)*nvantareḥ*.

We now describe the sherds:

1. A potsherd of medium texture and of red ware with gritty core. Rim horizontally splayed out. Inscription—(*Ā*)*rogyavihāre*. 'In the sanatorium-cum-monastery.' Incomplete inscription. A line at the top, bottom and left hand side of the inscription. A very important potsherd. Locus KR IV F. Pl. XXXV, No. 4.
2. Red ware having red slip outside and gritty core with an inscription *Dhrvanandisya*. Grammatically the form is incorrect; it should have been *Dhruvanandinaḥ*. Such Prakriticisms are not unknown in contemporary inscriptions. No. . KR IV F. Pl. XXXV, No. 5.
3. A small potsherd of red ware, medium fabric, red slip and gritty core with an inscription—(*Dha*)*nvantareḥ*. The restoration of the first letter is almost certain. No. 50. KR IV J. Pl. XXXIV B, No. 2.  
'Of Dhavantari.' Dhanvantari might have been either the name or the title of the presiding physician of Ārogyavihāra.
4. A base of a big jar or vase which is of medium fabric, black core with dark red slip and an inscription (*Sra*)-*maṇyāh*(?). If the restoration of the first letter is correct, it seems that in this monastery nuns were also living. No. 187. KR IV K. Pl. XXXV, No. 1.
5. A complete lid of medium fabric red ware with an inscription *Bhasarva* on the inner side. No. 458. KR IV O. Pl. XXXV, No. 2.
6. A small potsherd of red ware with medium fabric, red slip outside and an inscription with only one distinct letter *na*. No. 186. KR IV K.
7. A potsherd of red ware, medium fabric, with outward red slip and two letters *nana*. No. 1185. KR IV ZE'.
8. A piece of a rim of red ware, medium fabric, and black core with an inscription *Jivana*, which may be the name of an individual. No. 726. KR II L. Pl. XXXIV B, No. 4.
9. A potsherd of buff ware, medium fabric, with an incomplete inscription *Upanāsa*. The vertical of *na* is fairly long, as was the case in the 2nd and 1st centuries B.C.; but the letter *śa* is much later in form. No. 108. KR III B. Pl. XXXIV B, No. 3.
10. A potsherd with red ware, red slip and gritty core. It has an inscription *Budhadeva(ā)laya-ni(mittam)* 'for the temple of the Buddha,' on the outer side. No. 937. KR IV Z. Pl. XXXV, No. 6.
11. A broken fragment of a vase. It bears the letters *Damma*. No. 347. KR III N. Pl. LXXII A, No. 1; Fig. 37, 11.

## CHAPTER VII

### TERRACOTTA OBJECTS

#### I. TERRACOTTA FIGURINES

A large number of terracotta figurines have been unearthed at almost all levels. Vast majority of them are females. Smaller terracottas were obviously playthings made either by the potter or the children themselves. Owing to the rough use to which they must have been put, most of them are naturally mutilated. Arms and legs of these figurines are usually broken.

These figures are well burnt and are generally of red colour. Most of the figurines retain no trace of paint and it is probable that majority of them were not painted. Weather and the action of salt petre in the soil can easily account for the disappearance of the paint from those which were painted. Most of these figurines are made from moulds; a few of them only are hand-made.

If we carefully analyse the terracotta figurines found from our excavations period-wise, we find that the total out-put of the Periods III and IV (i.e. c.A.D. 100—450) is by far the largest.

The creative instinct of the potter-artist can very well be visualised from these terracotta figurines. Of his striking and fertile imagination there can be little doubt. He follows different techniques with a fair amount of success and has left to the posterity a typical picture of contemporary society in these terracotta models.

For the sake of convenience deities and devotees are described in sections A-C, the period being indicated in each case. Remaining terracottas are arranged period-wise.

#### A. Gods

The discovery of Hindu gods like Vishnu, Gaṇeśa, etc. along with the Buddha will show that both Hindu and Buddhist deities were being worshipped at Kumrahar.

##### *Vishṇu*

Plaque of Vishṇu with four hands, standing on a pedestal. Upper part of the head, probably wearing a *mukūṭa*, is worn out and broken. The face is worn out; *kuṇḍalas* in the ears; upper hands are raised but objects held in them are not distinct. Lower arms are broken, but armlets round them are visible. A portion of the *vanamālā* is visible above the knees. The god is wearing a dhoti secured by a waist-band. The figure is hollow inside. Period IV. Dimensions 9"×4·8". No. 111. KR V D. Pl. XXXVIII, No. 1.

##### *Buddha*

Portion of a standing Buddha figure, broken below the chest. Right hand in *abhayamudrā*; large halo behind the head. Period IV. Height 2·6"; No. 200. KR TA. Pl. XLIV, No. 2.

##### *Bodhisattva*

Male moulded figure in dhoti; worn out; right hand bent and raised in *abhayamudrā*; left hand broken; a *jūḍā* on the head and a necklace on the neck. The identification of the figure

## NAIGAMESA MALE AND FEMALE TYPES

is doubtful. The *abhayamudrā* along with the necklace would suggest that the figure is probably that of a Bodhisattva. Period IV. Height 4·5"; No. 81. KR V C. Pl. XLIV, No. 1.

Bust of a Bodhisattva, worn out; Period IV, height 2·45"; No. 202. KR TC. Pl. XLIV, No. 3.

### Gaṇeśa

Seated Gaṇeśa with trunk turned towards the left. Right tusk only partly visible. The lower portion is broken. Worn out. Period IV. Height 3"; KR E. Pl. XLV B, No. 4.

### Saptamātrikās

A broken terracotta piece showing three out of the seven Mātrikās. They are all seated apparently on raised seats. Period IV. Length 6·55"; No. 132. Pl. XLV B, No. 2.

### Chāmūṇḍā (?)

Bust of a female showing some resemblance with Chāmūṇḍā. Right hand raised up, left hand hanging down. Breasts broken. Threatening eyes. Period IV. Length 2·6"; No. 686. Pl. XLV, B 1.

### Nāgadeva

Stylistic figure of the hood of a Nāgadeva. Broad and smiling face. Long and incised ears wearing peculiar earrings. Oval shaped eyes with eyelids within circles. Nose with nostrils. A crescented ornamental decoration on the forehead and a decorated *mukuta* on the head. Over the head of the deity is a hood of cobra, partly preserved. The back of the figure shows the body and hood of the cobra with punched circles and semicircles. Moulded. Height 6·2". Period IV. No. 931. KR IVZ Pl. XLV A, No. 1 (front); Pl. XLV A, No. 2 (back).

## B. NAIGAMEŚA, MALE AND FEMALE TYPES

The twenty-eight Naigameśa figures described below constitute an interesting group of terracottas. Naigameśa or Naigameya was the name of a much dreaded follower of Kārtikeya; a person possessed by him showed symptoms of foaming and vomiting and used to talk at random.<sup>1</sup> The deity, therefore, was widely worshipped to avoid its evil attention. Eventually it became the presiding deity over child-birth. The transformation is somewhat similar to that of Hārīti.

According to tradition, Naigameśa had the head of a goat, but the torso of a human being. At Ahichchhatrā, a number of Naigameśa terracottas were found, but they all belonged to the period A.D. 450-650<sup>2</sup>. At Kumrahar, however, the stratification shows that these figures begin to appear at about A.D. 100 and were common during the next four hundred years. So our Naigameśa terracottas are earlier than those of Ahichchhatrā. Sl. Nos. 11 and 13 belong to Period III and the rest to Period IV.

As required by tradition the Naigameśa figures have the face of a goat, its upper part being characteristically goat-like. The ears are long and dangling and the nose is hooked. The mouth is indicated by a deep-cut slit.

<sup>1</sup>Cf *Sanskrit Wörterbuch*, Vol. 4 p. 319; *Vāchaspatyam* Vol. V p. 4148 — ‘*Yahphenam vamati vinamyate cha madhye sodvegam vilapti chorddhvamiksamāṇaḥ jvaryeta pratatamatho vasāsagandhirnis-saṅgo bhavati hi naigameya-jushṭah*.’

<sup>2</sup>*Ancient India*, No. 4, pp. 134ff.

Naigameśa figures of the Period III (c. A.D. 100 to 300.) have horns, whereas those of the Period IV (c. A.D. 300 to 450) are without them.

Sanskrit authorities refer to Naigameśa as a male person; terracottas, however, show that they were also conceived as females.

1. Bust of a female Naigameśa with left arm broken and right hand ending in a shallow cup-like depression; long bored ears, open mouth, hooked nose (only one nostril being shown), and prominent breasts. Hair on the head is shown as turned backwards. Hand-modelled. Ht. 3·3"; No. 106. KR V D.
2. Bust of a female Naigameśa; projecting hair-crest on the head with a suspension hole; slit mouth; long and pierced ears; prominent breasts: half-baked. Hand-modelled. Ht. 3·3"; No. 16. KR V B. Pl. XLII, No. 8.
3. Similar to the above. Hands broken. Height 2·3"; No. 566. KR II K.
4. Similar to the above but hands indicated by a spoon like depression. Ht. 2·4"; No. 708. KR IV baulk between D and E.
5. Hair not shown; otherwise similar to No. 2. Hands broken. Ht. 2·9"; No. 29. KR IV. Pl. XLII, No. 4.
6. Bust of a female Naigameśa; prominent breasts and hands ending in a shallow cup-like depression. Hand-modelled. Ht. 1·4"; No. 975Z<sup>51</sup>. KR II N.
7. Torso of a female Naigameśa. Prominent breasts. Narrow waist and wide hip. Ht. 3·1"; No. 11. KR IV J.
8. Bust of a female Naigameśa. Breasts very prominent. Hands broken. Hand-made. Ht. 1·1"; No. 14. KR V B.
9. Torso of a female Naigameśa; hands and legs broken. Prominent breasts. Narrow waist and wide hip. Hand-made. Ht. 3·1"; No. 975Z<sup>67</sup>. KR II N.
10. Bust of a female Naigameśa; dangling pierced ears and projecting hair-crest on head with a hole; open mouth and prominent breasts. Ht. 4·1"; No. 678. KR II L. Pl. XLII, No. 3.
11. Head and torso of a female figure with goat-like face, prominent breasts; slit mouth; pierced ears; hooked nose; narrow waist and wide hip and projecting hair-crest on head with a suspension hole. Horns are visible. This belongs to Period III (c. A.D. 100 - 300). Ht. 4·7"; No. 967. KR II N. Pl. XLIII B, No. 1.
12. Bust of a female Naigameśa with left ear; hands and breasts broken; goat-like face; pointed nose; slit mouth; dangling pierced ear and projecting hair crest on head and with a suspension hole. Ht. 2·5"; No. 141. KR II C. Pl. XLII, No. 5.
13. Head and torso of a male Naigameśa with goat-like face; hooked nose; slit mouth and long bored ears; a suspension hole in the crest at the back of the head. Horns are also visible. Hand-made. This belongs to the Period III. Ht. 4·2"; No. 77. KR IV. Pl. XLIII A, No. 4.
14. A female Naigameśa with goat-like face. Hands broken. Ht. 3·8"; No. 113. KR VD.
15. Head and bust of a male figure with goat-like face; hooked nose; long bored ears; open mouth; projecting hair-crest on head with a hole. No. 975Z<sup>63</sup>. KR II N. Pl. XLII, No. 2.
16. Head of a goat-like face of a female figure with decorated head; hooked nose; slit mouth and dangling pierced ears. Hole at the back of the broken head. No. 151. KR IV K.
17. Head of a figure with goat-like face; decorated crest on the head with a hole in the back. Similar to No. 16 above. No. 975Z<sup>56</sup>. KR II N. Pl. XLII, No. 7.
18. Head similar to No. 16 above. Probably projecting hair-crest on head with a hole which is broken. No. 661. KR II L.
19. Similar to No. 18 above. A hole at the back of the head. Ht. 3·8"; No. 926. KR II N.
20. Head and torso of a male figure with goat-like face. Hands and legs broken. Similar to No. 19 above. No. 130A. KR IV K. Pl. XLII, No. 1.

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21. Similar to No. 20 above. Horns are visible. No. 107. KR II C. Pl. XLIII A, No. 3.
22. Torso of a female figure with hands and legs broken. Prominent breasts. No. 348. KR V M.
23. Head and torso of a female figure with a pedestal. Hooked nose with goat-like face. Decorated head dress. Long pierced ears. Hands broken. There is a protrusion behind the head with a suspension hole. Ht. 3"; No. 113. KR IV K. Pl. XLII, No. 6.
24. Head and torso of a female Naigameśa with horns. Cup-like depression. Prominent bust. Length 4·15"; No. 1184. KR II S. Pl. XLIII A, No. 2.
25. Headless. Right hand and left leg broken. Length 3·4"; No. 471. KR IV O.
26. Bust. Suspension hole in the crest. Defaced face. Hands and ears broken. Length 2·8"; No. 409. KR IV N.
27. Similar to the above but elongated ears. Ht. 2·4"; No. 1201. KR II T.
28. Bust of a male Naigameśa. Suspension hole in the crest. Elongated ears. Hands broken. Ht. 2·1"; KR II C.

## C. MALE AND FEMALE WORSHIPPERS

All the terracotta figurines described below comprise male and female moulded figures of worshippers. They belong to Periods IV and V, i.e. c. A.D. 300 to 600.

1. Headless terracotta male figurine standing on a pedestal; right hand hanging down and holding a round object. The left hand rests on the waist. Toes are shown very clearly. The figure wears a dhoti. Ht. 4·1". No. 265. KR IV C. Pl. XLVIII, No. 3.
2. Woman with trefoil hair wearing a sari and earrings. Right hand akimbo and the left one hanging down. Prominent breasts. Ht. 3·3". No. 117. KR IV K. Pl. XLIII B, No. 4.
3. Crudely modelled figurine of a woman; right hand hanging down and the left one resting on the thigh. A crest on the head. Lower portion broken. Ht. 2·8". No. 76. KR III B.
4. Figure of a woman with large earrings and prominent breasts. She is touching her left breast with left hand, its fingers being very clear. Right hand is hanging down. Narrow waist. Ht. 32"; No. 406. KR V K.
5. Figurine of a headless woman, right hand hanging down and the left one resting on the waist. Narrow waist. Prominent breasts. A necklace on the neck. Lower part of the legs broken. Ht. 3·2". No. 67. KR V C. Pl. XLVIII, No. 6.
6. Headless woman. Right hand rests on the waist and the left one hangs down. Narrow waist. Prominent breasts. Lower part of the legs broken. Ht. 2·8". No. 81. No. KR III B 5. Pl. XLIII A. No. 1
7. Headless woman, holding her sari with left hand near the waist and the right hanging down. Prominent breasts. Legs are worn out. Ht. 2·5". No. 705. KR IV D and E. Baulk. Pl. XLVIII No. 4.
8. Similar to above No. 705 but breasts not prominent. Ht. 2·8". No. 902. KR II N. Pl. XLVIII No. 2.
9. Broken figurine. Legs broken. Wearing a sari. Right hand is hanging down. Ht. 2·2". KR II A. Pl. XLVIII, No. 5.
10. Similar to Sl. No. 8 above. Defaced. A broken standing figure without head; lower legs broken; left hand hanging down; right hand akimbo. No. 311. Ht. 2·7". KR III N. Pl. LXIII No. 7.
11. Bust of a female figure. Trefoil hair. Wearing earrings. Defaced. Ht. 1·6"; No. 560. KR II K.
12. Lower portion of a female figure. Sari and damaged legs are only visible. Ht. 1·6"; No. 112. KR V D.

13. Standing female figure with a crest on the head. Right hand bent and raised and left hand hanging down. Crudely finished. Defaced. Ht. 3·6"; No. 464. KR IV O.
14. A broken male figure. Left hand akimbo and right hand hanging down with closed fist. Fingers very clear; narrow waist. Moulded. Ht. 5·3"; KR Surface. Pl. XLVIII, No. 1.
15. Torso of a male figure. Left hand on the waist and the right hand hanging with closed fist. Traces of white paint all over the body. Moulded. Ht. 4·1"; No. 364. KR IV L. Pl. XLVIII, No. 8.
16. Head of a male figure with plump cheeks, double chin, incised oval shaped eyes with pupils, wearing earrings. A tenon below for fixing the head on a torso. Ht. 3·2"; No. 131. KR V.
17. Headless figure of a woman; right hand on the waist, wearing bracelets, left hand hanging down; a necklace (*hāra*) between prominent breasts. Legs broken. Ht. 5"; No. 1138. KR II B. Pl. XLIII A, No. 6.
18. Similar to the above, but better preserved. No. 2604. KR II L. Pl. XLIII A, No. 1.
19. Headless figurine of a woman standing on pedestal; right hand akimbo, left hand hanging down. No. 372. KR III N. Pl. XLIII A, No. 3.
20. Similar to the above, but more fragmentary. No. 2875. KC TC. Pl. LXIII A, No. 2.

#### D. TERRACOTTA FIGURINES OF PERIOD II' (c. 150 B.C. to A.D. 100)

1. A female standing figure; lower legs are broken. Though the figure is blurred, there are faint traces of her decoration. The hair is adorned with a double pearl-string terminating at the sides in circular rings of pearls. The pearl strings fringing on the hair on the forehead are a feature of the female figures ascribed to the Śuṅga period. The headdress is composed of side rolls with a central boss stamped with a floral design. The figure wears a sari with folds down on the sides and supported by a jewelled girdle whose faint traces are visible. Bracelets, probably jewelled, on each hand; heavy flat earrings. The face is oval and hands are clasped in front. This may be a figurine of Mother-goddess. Height 4"; No. 256. KR IV C. Pl. XXXVI A, No. 2.
2. The upper part of a figure showing the bust of a woman. Three small holes (dia. ·2"), not equidistant, in the forehead. Signs of wear are shown in these holes which perhaps might have been used for incense. Eyebrows are shown by semi-circular incisions. Oval eyes are incised with incision in the middle for eyelids. Very small mouth and a flat face with earlobes. Probably the figure of a Mother-goddess.<sup>2</sup> Height 1·8"; No. 97. KR IV J. Pl. XXXVI A, No. 3.
3. The bust of a female figure with circular and prominent breasts, necklace by the *applique* technique; core of the terracotta is grey. Height 2·8"; No. 978Z.<sup>80</sup> KR II N.
4. The portion of a figure from the navel downwards. Navel is rather prominent; incisions on the belly probably for decorations. Girdle indicated by small incisions round the waist; sari hanging down from it, whose folds are artistically shown. The figure holds a *viṇā* in the left hand, and the right one is resting on the waist, its fingers alone being visible. Left hand has some indistinct ornament. Height 2·8"; No. 975Z.<sup>50</sup>. KR II N. Pl. XXXVI A, No. 4.
5. A broken standing figure from belly downwards. Left hand rests on the waist clasping some indistinct object. Belly is prominent, a waist-band below. Lower garment hangs down in peculiar folds similar to that of *ghagarā*. Height 2·7"; No. 353.
6. A plaque of four figures, from a mould. On the extreme left, an attendant with some indistinct ornament in the ear, standing and holding some object in the right hand. Next comes a man, wearing loin cloth and *pugaree*, sitting on an *āsandī* (low seat) and offering some object by his

<sup>1</sup> All terracotta figurines of this period are moulded.

Cf. *Ancient India* No. 4 109 ff and *Journal of U. P. Historical Society* Vol. IX Pl. II

<sup>2</sup> Such terracottas have been found from other ancient places like Kauśāmbī, Mathurā etc.

right hand to a woman seated facing him also on an *āsandī*, and receiving the present in a bowl held in her hands. This woman also wears a loin cloth; there is a necklace on the neck, a bracelet on the forearm and an anklet on the ankle. A hole at the top.

There is a female figure in between the couple with trefoiled hair and prominent breasts; a necklace faintly visible. The role of this figure is difficult to understand. The plaque probably depicts an *āpānaka* scene. We have traces of such scenes from Bhārhūt Stūpa.

The plaque is too defaced for its proper significance being understood. Dimensions 3" × 2·6"; No. 976Z<sup>3</sup>. KR II N. Pl. XXXVI A, No. 1.

7. The head of a female terracotta figure, very much worn out. The headdress is similar to that of No. 1 above. Height 1·25"; No. 1192. Pl. XLIX, No. 3.
8. The bust of a female figure, *oḍhni* over the head going down the shoulders. Huge earrings. A necklace on the neck. Height 1·6"; No. 203. Pl. XLIX, No. 6.

#### E. TERRACOTTA FIGURINES OF PERIOD III<sup>1</sup> (c. A.D. 100-300)

1. Head of a male foreigner with helmet-shaped Scythian cap coiled at the top; some indistinct ornament in the ears<sup>2</sup>. Height 1·7"; No. 70. KR IV J<sup>2</sup>. Pl. XXXVI B, No. 1.
2. Head of a figure with a helmet-shaped cap. The headdress is very significant. Such headdresses were worn by Indo-Scythians. Height 1·6"; No. 651. KR IV P. Pl. XXXVI B, No. 2.
3. Head of a male figure with a peaked headdress, worn and defaced. Height 1·8"; No. 973. KR II N. Pl. XXXVI B, No. 3.
4. Similar to above. Height 1·6"; No. 975 M. KR II.
5. A female figure, wearing a flat headdress and a necklace. Her right hand with opened palm is folded up and raised and the left hand hangs by her side. Her lower legs are broken. Height 3·7"; No. 714. KR II L. Pl. XXXVI B, No. 5.

#### F. TERRACOTTA FIGURINES OF PERIOD IV. (c. A.D. 300-450)

##### *Large artistic Plaques*

The ten artistic terracottas, illustrated here, show the creative instinct of the potter-artist in giving some of the minutest details of the human body. Most of these plaques are from the Ārogyavihāra.

1. Bust of a male figure. This is one of the finest and most artistic terracotta found in Kumrahar excavations. Remarkably broad forehead with a ribbon going round; hair above the head raised upwards and matted in several groups. Eyebrows are prominent; hair being shown by incisions; eyeball circular with a hole in the centre. Prominent nose with clearly visible nostrils. Moustaches bushy and upraised. Lips closed. Ears prominent and head slightly inclined to left. The facial expression is one of gravity and moodiness. Broad and muscular chest, right nipple being visible. Right hand broken but was probably raised up. Left hand bent and raised up, touching the chest and holding one end of the garment; fingers prominent, with nails shown by incisions. A waist-band round the waist; one end of the fold of the *dhoti* is twisted four times around it. The artistic merit of this piece cannot be exaggerated.

<sup>1</sup> All the terracotta figurines of this period are from moulds.

<sup>2</sup> Cf. *The Art of India and Pakistan*—a Commemorative Catalogue of the exhibition held at the Royal Academy of Arts, London, Pl. XIV No. 64.

The category of this personage is a problem. It has been suggested that he may be a *viṭa*<sup>1</sup>, i.e. the gay follower of a hero in love or of a dancing woman. The fashionableness of the moustach and the rare type of coiffure may lend some weight to this view. But the fact that the face shows an expression of gravity and moodiness, and not one of frivolity or jovialness would go against the above view. Perhaps we have a *viṭa* in a mood of disappointment. It is also noteworthy that the figure wears no ornaments. Dimensions, 15" × 8.5"; No. 91-92. KR IV. Pl. XXXVI

2. Plaque of a headless Vidyādhara in a flying posture. He is wearing a *dhōti* and also an *uttari* which covers the torso and large parts of the arms. He is holding a bowl in the left hand, the fingers of which two of the fingers of the right hand are pointing, the rest being closed. The fingers of the hand are shown clearly, as also the nails. Two of the toes of the left foot have been preserved. Dimensions 12" × 5" × 17"; No. 439. KR IV N. Pl. XXXIX
3. Plaque of a couple, only the female figure being partly preserved. The female is now headless and is stretching her right arm probably behind the neck of her male companion, whose left hand with a *kaṅkana* is touching her waist; the breasts are preserved. Waist is narrow and hip is broad. There is a girdle round her waist; she is wearing a sari. Though defaced, the figure preserves a considerable amount of its original gracefulness. Dimensions 3' × 2' No. 461. KR IV N. Pl. XI
4. Female head of a big terracotta plaque. Hair is shown by incisions and is collected together in the middle of the head and is tied in a *jūdā* style. Eyes and eyebrows are crudely indicated. Long broken ears; lips and chin are very prominent. Nose with nostrils is shown. Signs of white slip are seen all over the body. Height 4"; No. 266. KR IV C.
5. The head of a female devotee. Half closed eyes in a very peaceful mood. Honeycombed hair which is tied in the back in a *jūdā* style with a string. Hair is shown by incisions. Eyes and eyebrows are shown in a very artistic way. The face is inclined towards the left. In the right broken ear the lady is wearing a *kuṇḍala*. Length 4"; No. XXI A. KR IV J. Pl. XL
6. A crude headless figure of a woman seated in Bhadrāsana. She wears a frock or *ghāgrā*. In her left hand, she holds a cup; right hand on the right knee. Thick anklets and bangles. Fingers and toes crudely shown; hand-made. Found in a pit of the late Gupta period. KR TG. Height 8.1". Pl. XXXVIII, No. 4
7. The broken figure of a woman carrying a pitcher, also broken. Only the head and the left arm of the woman have been preserved. Under the broken pitcher is an artistic pad of straw over the head. Hair arranged in the *śimanta* fashion. Left arm has an armlet (*keyūra*). The forearm has several thick bracelets. A big earring in the lobe of the left ear. Necklace on the neck. The facial expression is of a person careful about the heavy weight that is being carried. Mouth is slightly opened, tongue peeping out. Eyes are beautifully shown. Braid of hair behind the head, not visible in the photograph. KR IV XE<sup>2</sup>. Pl. LI I
8. Broken torso of a woman with nicely moulded breasts. KR IV J. Pl. LXXVII, No. 7
9. Broken figure of a woman; legs and hands are missing. Arms partially preserved. Sari taken across the left shoulder over both the breasts; folds shown by indented lines. There is a pin over the left breast to keep the sari in position. KR IV J. Pl. LXXVII, No. 2
10. Torso of a woman with finely modelled breasts. Legs broken, only part of the left arm preserved. She was leaning on the right foot, as is suggested by left shoulder slightly raised up and the right breast slightly lowered down. Muscle over the left breast well indicated. Pl. LXXVII

#### (G) SMALL TERRACOTTAS WITH GOOD WORKMANSHIP

1. Headless moulded figure seated in *lalitāsana* and wearing a *dhōti*. Right hand on the right knee with opened palm and the left hand on the left knee. A *keyūra* on the right arm, a necklace over the neck and a girdle round the waist. No. 88. Ht. 1.5." KR IV J. Period IV. Pl. XLIX, No. 1

ICf. उदञ्चितकचः किञ्चित्चक्रुश्चमश्रुवेष्टने । दिने देव गृहाधीशवदनं वीक्षते विटः ॥ *Deśopadeśa* by Ksemendra, V. 16  
The author is grateful to Dr. V. S. Agrawal, Banaras Hindu University for this information.

Torso of a woman with prominent and circular breasts wearing a necklace over them. Period III. Ht. 1.4". No. 416. KR IV N. Pl. XLIX, No. 5.

A woman walking along with a child. The child is behind the woman and she is supporting it by her right hand, gracefully inclining backwards for the purpose. Earring in the right ear. Folds of the sari fall gracefully downward. Defaced face. Period IV. Ht. 1.7". No. 65. KR III B. Pl. XLIX, No. 2.

Moulded broken plaque on a pedestal. A headless standing male figure wearing a *dhōti* with folds. Right hand on the belly; navel visible; *yajñopavīta* is shown by incision. The terracotta being fragmentary, it is not possible to explain the zigzag lines in front of the left leg. Was there another person by his side? Period IV. Ht. 2.2". No. 6. KR II A. Pl. XLIX, No. 7.

Moulded broken plaque of the bust of a winged female figure with raised head, wearing ear-rings and a necklace. Her hair is tied in a *jūdā* style. Breasts with nipples are prominent. Red slip. Period IV. Ht. 1.2". No. 944. KR II N. Pl. XLIX, No. 4.

A standing headless female figure, probably, leaning against a wall. Legs crossing each other, the left one being fully extended, the right one crossed behind it. Right hand bent and raised up to the breast, left hand hanging down. A girdle round the waist. Period IV. Ht. 2.15"; No. 366. Pl. XLIX, No. 8.

The head and bust of a *chauri*-bearer. Headdress and hair arrangement damaged. Big earrings; *chauri* in the right hand. Period IV. Ht. 3.5". Pl. XLV B, No. 3.

#### (H) CRUDE TERRACOTTA FIGURINES

The group of four terracotta figurines described below are hand-made and crude.

A terracotta male figurine, crude, hand-made, having pinched nose, open mouth, short ears, eyes indicated by sunken hollows, small outstretched arms, the right one broken, stumpy arched legs, the right one broken. Period IV. Height 2.1"; No. 54. KR IV.

Torso of a male figurine, crude and hand-made, small, outstretched arms, legs broken. Period IV. Height 1.9"; KR IV Surface.

A terracotta male figurine, crude and hand-made, having pinched nose, open mouth and horizontal ears; eyes are indicated by sunken hollows with a hole in the middle; outstretched arms, plumpy arched legs, the left one broken. Period IV. Height 2.5"; No. 13. KR V B.

The hollow headless figure of a woman. Traces of *kaṅgaṇa* on the right hand; prominent breasts with incised nipples, wearing a garland which is shown by small incisions. Workmanship is extremely crude. Hand-modelled. Period IV. Height 5.2"; No. 5. KR V B.

#### (I) MOTHER AND CHILD

These plaques are prepared from shallow moulds like Ahichchhatrā terracotta figures of this type. At Kumrahar we have found two terracotta figures of *aṅkadhātṛī* type i.e. woman with a babe in her arms and one of *kshīradhātṛī* type i.e. woman with a suckling babe. In the Ahichchhatrā terracotta figurines, right arm is made free from the bust by the paring of clay, which is not the case in these terracottas. All these terracottas belong to period V, i.e. c. A.D. 450-600.

1. Woman with trefoil hair holding the babe in her left flexed arm; the babe is touching her breast with left hand. She is holding the left leg of the baby with her right hand. Height 3.65"; No. 1723. KR IV XE. Pl. XLIV, No. 6.



2. Similar to No.1 above. Headless. KR IV L.
3. Headless woman with a suckling young child. The head of the child is just near the breast; it is supported by both the palms of the mother. Height 2'6"; KR III A. Pl. XLIV, No. 5.

(J) MALE AND FEMALE FIGURES—SHOWING STYLES OF HAIR DRESSING

1. Bust of a female figure; hair is parted in the middle and tied in knot on either side; crest-jewel in the parting of the hair. There is a necklace of pearls on the neck and an ear pendant in the right ear. The breasts are bulging out. Moulded. Period IV. No. 1302. KR IV ZW<sup>2</sup>. Pl. XLVI, No. 7.
2. Head and bust of a male figure, part of the hair tied in a knot at the top and part falling on either side in spiral curls. Traces of white paint on the face and the body. Moulded. Period IV. KR IV. Pl. XLVI, No. 2.
3. Head of a female with trefoil hair and a crest-jewel in the *simanta*. An ear pendant in the right ear. Moulded. No. 19. KR IV J. Pl. XLVI, No. 8.
4. Head of a female figure with hair parted in the middle by a crest-jewel terminating a little higher into a *jūdā*, tied by a string. Earrings in the ear. Small holes near the ears. Moulded. Period IV. KR V. Pl. XLVI, No. 9.
5. Bust of a male figure with hair combed and parted in the middle. Part of the hair is tied in a knot at the top and part is falling on either side in spiral curls. Indistinct ear ornaments on both the ears. Moulded. Period IV. No. 1152. KR IV ZE<sup>1</sup>. Pl. XLVII, No. 4.
6. Similar to No. 2 above but head only. Period IV. No. 352. KR IV L. Pl. XLVI, No. 6.
7. Head of a male, hair arranged as in No. 2 above; crest at the back and frizzled locks falling on both sides in parallel rows. Moulded. Period IV. No. 57. KR IV C. Pl. XLVI, No. 1.
8. Similar to No. 1 above, but more graceful. Moulded. Period IV. No. 2075R. KR TC. Pl. XLVI, No. 5.
9. Head of a female with trefoil hair. Moulded. Period IV. No. 410. KR IV N. Pl. XLVII, No. 8.
10. Similar to No. 3 above. Traces of white paint are visible. Period IV. No. 2. KR IV J.
11. Head with profuse hair tied in a knot above and falling in three tresses on either side. Period IV. KR III. Pl. XLVI, No. 3.
12. Woman's head with prominent coiffure. Wearing an earring. Period II. No. 129. KR III C. Pl. XLVII, No. 1.
13. Head. It shows matted locks of hair on the right side and spiral curls on the left. Ear pendant in the right ear and earring in the left. Traces of white paint. Period III. No. 905. KR II N. Pl. XLVII, No. 3.
14. Similar to No. 8 above but broken on the left. Period IV. No. 975Z<sup>24</sup>. KR II N. Pl. XLVII, No. 4.
15. Head with a round helmet, markedly different from the peaked one of the Kushāṇa period. Indistinct ear ornament in the ear. Period IV. No. 120. KR IV K. Pl. XLIV, No. 4.
16. Bust of a female figure with trefoil hair and a double roll decorating the plaited band in the centre, representing two crest-pendants; alternatively they can be simple raised locks of hair. Earring in the left ear. Grey ware. Badly baked. Period IV. No. 116. KR IV K. Pl. XLVII, No. 9.
17. Similar to No. 16 above, but broken left hand not hanging down. Period IV. No. 105. KR II C. Pl. XLVII, No. 7.
18. Male figure with trefoil hair, a crest jewel in the middle and hair falling on the sides in wigs. Left hand akimbo, right hand suspended. Ear pendants in the ears. Badly burnt. Moulded. Period IV. No. 115. KR IV K. Pl. XLVII, No. 5.
19. Male figure with a crest in the middle of the head. *Kuṇḍala* in the right ear, left ear indistinct. Badly burnt. Moulded. Period IV, No. 1060. KR IV ZW. Pl. XLVII, No. 6.

20. Head of a male figure in profile to right. Eye shown crudely. The hair first wound round the head and then tied in a knot. A smile on the face. Period III. Height 1·15"; No. 1728. KR IV XE. Pl. XLVII, No. 2.

(II) TERRACOTTA BEADS

The number of terracotta beads found in the excavation amounts to 100. Various shapes are noticed: spherical, pear-shaped, areca-nut shaped or *ghaṭa*-shaped.

The common shape is the pear-shaped. Numerous beads of this shape occurred in all the layers at various ancient sites. This seems to be very common type. They are generally without any slip, prepared out of fine clay with sand as the main ingredient turned on a very fast rotating wheel and baked very hard. This baking has often helped to preserve the bead which is very rarely found broken. In several cases the beads have a milled appearance to the extent of showing parallel groove marks at very close intervals. The butt end of a bead in most of the cases has a very deeply incised groove made by a sharp instrument, while in motion on the wheel. A shallow depression near the butt characterises these beads as areca-nut shaped. Various sub-types of the shape are noticed, denoted by the height of the bead.

Some of these beads are roughly made with strongly chamfered holes, which are unduly wide; indeed, the cord must have been very thick to prevent the bead wobbling upon it.

FIG. 37

The special forms are listed below:

1. *Ghaṭa*-shaped with a collar at one end. KR IV M. Fig. 37,1.
2. Variant of the above. No. 103. KR IV K. Fig. 37,2.
3. Pear-shaped. No. 402. KR II H. Fig. 37,3.
4. Pear-shaped with a grooving. No. 907. KR IV Z. Fig. 37,4.
5. Pear-shaped with ridges on exterior. No. 55. KR III B. Fig. 37,5.
6. Variant of No. 2. above. No. 557. KR II K. Fig. 37,6.
7. Plano-convex. No. 203. KR IV H. Fig. 37,7.
8. Variant of No. 5 but without ridges. No. 101. KR III B. Fig. 37,8.
9. Variant of the above. No. 132. KR IV K. Fig. 37,9.
10. Variant of No. 8. No. 1. KR IV J. Fig. 37,10.
11. Variant of No. 10. No. 48. KR IV J. Fig. 37,11.
12. Variant of No. 2. No. 8. KR III B. Fig. 37,12.
13. Variant of No. 12. No. 26. KR IV J. Fig. 37,13.
14. Plano-convex. This belongs to Period II. No. 975 M. KR II N. Fig. 37,14.
15. Variant of No. 11, but ridges on the exterior. No. 998. KR IV ZE. Fig. 37,15.
16. Variant of No. 13 with groove in the waist. No. KR IV N. Fig. 37,16.
17. Variant of No. 15 with two projections. Hand-made. No. 346. KR IV L. Fig. 37,17.
18. Variant of No. 10. No. 975Z<sup>30</sup>. KR II N. Fig. 37,18.
19. *Ghaṭa*-shaped with a collar at one end; annular. No. 33. KR IV J. Fig. 37,19.
20. Variant of No. 10, but with globular body. No. 372. KR IV L. Fig. 37,20.

21. Variant of No. 13. No. 1198. KR IV ZE<sup>1</sup>. Fig. 37,21.
22. Fragment of a bottle-shaped bead. No. 42. KR IV J. Fig. 37,22.
23. Variant of No. 19. No. 36. KR IV J. Fig. 37,23.
24. Variant of No. 21. No. 347. KR II L. Fig. 37,24.
25. Variant of No. 19. No. 463. KR IV O. Fig. 37,25.
26. Variant of No. 24. No. 1192. KR IV ZE<sup>4</sup>. Fig. 37,26.
27. Variant of No. 26. No. KR IV G. Fig. 37,27.
28. *Ghaṭa*-shaped. No. 348. KR II L. Fig. 37,28.
29. *Ghaṭa*-shaped with a collar. No. 964. KR II N. Fig. 37,29.
30. *Ghaṭa*-shaped with prominent waist. No. 349. KR V H. Fig. 37,30.

FIG. 38

31. Barrel-shaped with groove on the exterior. No. 354. KR IV L. Fig. 38,31.
32. Biconical. Hand-made. Crudely modelled. No. 910. KR IV Z. Fig. 38,32.
33. Spherical. No. 111. KR III B. Fig. 38,33.
34. Pear-shaped. No. 1199. KR IV ZE. Fig. 38,34.
35. Variant of the above. No. 105. KR IV K. Fig. 38,35.
36. Variant of the above, but ridges on exterior. No. 106. KR IV K. Fig. 38,36.
37. Spherical with a groove in the middle. No. 80. KR IV J. Fig. 38,37.
38. Variant of 35 above. No. XXIIA. KR IV J. Fig. 38,38.
39. Spherical. No. 975<sup>29</sup>. KR II N. Fig. 38,39.
40. Variant of the above. Hand-made and crudely modelled. KR II L. Fig. 38,40.
41. Variant of the above. Hand-made and crudely modelled. No. 80. KR III B. Fig. 38,41.
42. Variant of the above. Hand-made and crudely modelled. No. 142. KR IV K. Fig. 38,42.
43. Variant of the above. Hand-made and crudely modelled. No. 141. KR IV K. Fig. 38,43.
44. Biconical. No. 208. KR V F. Fig. 38,44.
45. Variant of the above but hand-made. No. 713. KR II L. Fig. 38,45.
46. Spherical. Hand-made. No. 134 A. KR IV K. Fig. 38,46.
47. *Ghaṭa*-shaped with a collar. No. 1200. KR IVZE<sup>1</sup>. Fig. 38,47.
48. Spherical. Roughly made. No. 975Z<sup>35</sup>. KR II N. Fig. 38,48.
49. Spherical. No. 455. KR IV O. Fig. 38,49.
50. Biconical. KR IV B. Fig. 38,50.
51. Cylindrical but tapering towards the top and the hole near to the top. Probably an amulet used for animals. Fig. 38,51.
52. Spherical. No. 975E. KR II N. Fig. 38,52.
53. Cylindrical with a flat curved base. Hole towards the top. This may have been used as an amulet for animals. This belongs to Period II. No. 724. KR II L. Fig. 38,53.
54. Bicorne circular. No. 56. KR III B. Fig. 38,54.
55. Spherical. No. 902. KR IV Z. Fig. 38,55.
56. Variant of the above. No. 110. KR IV K. Fig. 38,56.
57. Variant of the above. No. 135A. KR IV K. Fig. 38,57.
58. Variant of the above. No. 136A. KR IV X. Fig. 38,58.
59. Variant of the above. No. 96. KR IV. Fig. 38,59.
60. Variant of the above. No. 203. KR V F. Fig. 38,60.

## (III) TERRACOTTA ANIMALS

Ninetyseven terracotta animals, entire or fragmentary, were found. The clay used in making them is of the same colour and quality as was used for the human figurines and for pottery. On the whole these terracotta animals do not appear to be well baked as the figurines; but as many are obviously toys and are hand-made, this was to be expected. Majority of these animals are solid. We have discussed here only the typical and representative terracotta animals.

Bulls are very common among the terracotta animals; some of them are with humps and some are humpless. The other animals are lion, tiger, elephant, horse, monkey and camel.

*Bird*

1. Roughly modelled bird, probably a dove, on a small stand with concave base. Hollow inside. No slip. Marks of thumb impressions. 2·1" long. 1·1" high. This belongs to the Period IV. No. 856 KR II M.

*Camel (?)*

2. A broken crudely made figure of a camel. (?) Prominent nostrils. One hump. Strap on the neck below; four folds of skin on the neck. The strap has two circular concentric designs. The animal is hollow inside; neck is characteristically prominent; other portion is broken. Period II. No. 111. KR VII B. Pl. LII B, No. 2.

*Deer*

3. The figure of a winged deer forming upper part of a large terracotta figure. It is a unique figure. Period IV. Length 3·5"; KR III Pl. LI, A

*Elephants; all except No. 6 are of the Period IV.*

4. The trunk of an elephant. Tusks are also shown. Length 3"; KR III B.
5. The well preserved head of an elephant. Ears have not been shown, but tusks are there. It was finished in light red colour and then dipped in whitewash. Length 2·2"; No. 406. KR IV N. Pl. LII A, No. 3.
6. A roughly made thin figure of an elephant. Its tail has not been shown. Neck has been lengthened. Ears are visible. Period III. Length 2·5"; KR IV N. Pl. LII A, No. 4.
7. A well modelled figure of a well preserved elephant. Eyes are not shown. The trunk, tail and legs are shown by projection. Trunk is twisted towards the left. The ears are big. Height 1·75". Length 2·7". No. 3. KR V. Pl. LII A, No. 1.
8. Crude figure of an elephant with broken legs and trunk. No. 2581 KR TK. Pl. LII A, No. 2.
9. The head and trunk of an elephant, broken. Ear very prominent. No. 314 KR III N. Pl. LII A, No. 5.

*Horses; all except Nos. 10 and 12 are of Period IV.*

10. A fragmentary horse with saddle on its back and strap round the neck. Legs broken. From dump. No. 350 KR V H. Pl. L, No. 1.
11. A very well made figure of a stout horse with a headless rider, who is holding the reins of the horse; ears and nose with nostrils are seen. The legs and hind portion are broken. Length 2·85": No. 119. KR III C. Pl. L, No. 9.

12. Well-shaped mouth of a horse (?) reins being clear. Eyes are shown with incised pellets. Open mouth. Nose with nostrils. As the reins are in the mouth, the teeth are visible. From dump. No. 370. KR V J. Pl. L, No. 4.
13. Roughly made figure of a horse (?) with exaggerated hair on the neck. Legs have been disproportionately separated from each other. No tail. No. 1202. KR II N. Pl. L, No. 3.
14. Well shaped figure of a horse with long tail. Rein is visible. Front legs broken. No. 339. KR III N. Pl. L, No. 2.
15. Horse (?) probably standing on hind legs. Three legs broken, the fourth front one contracted. Height 2·3"; No. 975Z<sup>5</sup>. KR II N. Pl. L, No. 6.
16. Similar to No. 14 above, but hind portion alone preserved. No. 381. Pl. L, No. 7.
17. Similar to No. 14 above, but front part alone preserved. No. 301. KR III N. Pl. L, No. 8.
18. Small crude figure of a horse. No. 2137, KR TF. Pl. L, No. 5.

*Humped Bulls:* of Period IV, except sl. No. 24.

19. A crude hand-made miniature figure of a bull with exaggerated hump. Its tail, horns and ears are broken. Badly burnt. Opened mouth; each leg separately indicated. Length 1·8"; No. 9. KR IV J.
20. A crudely made bull with exaggerated hump. Horns and ears are shown. No tail. Each leg separately indicated. Period IV. No. 13. KR IV J. Pl. LII B, No. 3.
21. A roughly made figure of a bull with exaggerated hump. Its tail and horns are broken. A longish face with mouth wide open. Height 1·3". Length 3·1". No. 350E. KR V HC.
22. Similar to No. 350E. Horns and ears are shown. Length 1·8"; No. 975N. KR II N.
23. A roughly made bull with exaggerated hump; its legs, mouth, ears and tail are broken. Badly burnt. Length 2·7"; No. 689. KR III.
24. A rough disproportionate figure of a bull (?) with exaggerated hump. Two horns and ears are shown. Legs are disproportionate to the body. Mouth is thin and pointed. Period III. No. 975Z<sup>5</sup>. KR II N. Pl. LII B, No. 1.
25. A roughly made bull with broken hump. Ears and horns are shown by projection. Face has been lengthened. No tail. Broken legs. Length 2·5"; No. 975Z<sup>6</sup>. KR II N.
26. A roughly made bull. The face and legs are defaced. Length 2"; No. 118. KR V D.

*Lion*

27. A fragment of the head of a lion. Ears are clear as also the nose with nostrils, shown by pinching. The mane is indicated by lines incised with some pointed pin. No. 66. KR III B. Pl. LIII A, No. 2.  
Period IV.
- 27A. The headless figure of couchant lion. No. 79. KR III B. Period III. Pl. LIII A, No. 4.

*Monkey*

28. Well shaped head of a monkey. The pouting lips are characteristically shown, as also the general air of alarm, so characteristic of this animal. Eyes are shown by incised pellets. Period IV. No. 320. KR IV K. Pl. LIII B, No. 2.
29. A well-made bust of a monkey. It was finished first in red colour and then dipped in a white-wash. The pouting lips and teeth are very well portrayed. The monkey is eating something which is held by both of its hands. Fingers of the hands are also clear. Part of the figure is black due to bad firing. Period IV. No. 1166. KR IV ZE<sup>1</sup>. Pl. LIII B, No. 3.

*Ram*

30. Bust of a fighting ram(?) with widened mouth and pointed face. Ears are shown by circles with a hole in the middle. A circular line with small holes above and below the circle running

## TERRACOTTA ANIMALS

all over the neck. This has been done by some pointed knife at the time of its modelling.  
Period III. Length 2·5"; No. 655. KR II L. Pl. LII B, No. 4.

*Tiger:* excepting sl. No. 32, all are of period IV.

31. Rough figure of a tiger with broken fore and hind legs, separately indicated. Widened mouth with tongue which is protruding from the mouth. Its tail is broken. The eyes are shown by plain round pellets, the nose being visible between them. Length 3·2"; No. 71. KR IV J. Pl. LIII A, No. 1.
32. Figure of a tiger, probably sitting. The hind part with two legs is broken. Wide mouth with long ears. Period III. Length 2"; No. 133A. KR IV K. Pl. LIII A, No. 5.
33. A very roughly made tiger with broken fore and hind legs which are indicated separately. Mouth is opened out but no tongue is visible. The tail is long and curled up. The eyes are shown by plain round pellets in a depression and some depression exists on the back also. Length 2·8"; No. 149. KR IV K. Pl. LIII A, No. 3.
34. A very poor and roughly made tiger. Two legs only are preserved. Tail, eyes and ears are not shown. No indication of the mouth. A knob in the forehead. Length 1·8". Length 2·65". KR IV C surface.
35. Figure of a tiger. Its tail and legs are all broken. The mouth is opened out, and part of the tongue, which was affixed later, is preserved. Ears are shown by the projection in the back and eyes by plain round pellets. Length 2"; No. 356. KR IV L.
- 35A. Crude broken figure of a tiger. Stripes are probably shown by crude indentations. Legs and hind portion broken. No. 2100i. KR TD. Pl. LIII A, No. 7.
36. Figure of a tiger with each leg separately indicated; tail is long. Ears and eyes similar to No. 35. Length 3"; No. 1204. KR IV ZWQ<sup>1</sup>.
37. Figure of a tiger. Its legs, ears and tail are broken. Nostrils are shown by two holes. Circular and semi-circular incisions round the neck, perhaps intended to be decorative. Widened mouth. Length up to neck 1·8"; No. 318. KR V H. Pl. LIII A, No. 6.

### *Frog*

38. A frog. Protuberance of eyes is distinct. Period IV. KR IV N. Pl. LIII B, No. 4.

### *A Plaque of Lion and Birds*

39. A circular plaque. In the middle a lion in relief is shown. Hair on the back is shown by incision. Tail is long and curled up. Nails of paws are shown by incision. Below the lion, between two arcs, three birds are shown. Probably they are crows. On the reverse of the disc there is a leaf pattern. Period IV. Dia. 1' 75"; No. 114. KR III. Pl. LIV, No. 1.

### *Animals of uncertain species*

The following figures are difficult to identify.

40. Upraised and broken head of an animal of uncertain species. Mouth with two eyes is shown by depression. Nose is pointed. Height 2"; No. 137. KR IV K.
41. A peculiar animal head on a concave pedestal. Ears are indicated by projection. Some raised portion on the back. Just below the head appears what looks like a circular platform. Its edge is shown by several regular depressions. It was in red colour and then dipped in a whitewash. Height 2"; No. 452. KR IV O.
42. Head of an animal. Eyes are indicated by circles with thin holes in the middle. A portion of the middle of the head is raised with four depressions. It may be a dog. Height 1·5"; No. 975Z<sup>33</sup>. KR II N.

43. The head only of an animal; head raised and mouth opened. A dog (?). Period III. No. 2629. KR VII R. Pl. LIII B, No. 1.
44. A crude representation of some animal. No. 1859. Period III. KR IV XE'. Pl. LIII B, No. 6.

#### (IV) TOY ANIMAL WITH MOVEABLE HEAD

The terracotta quadruped with two holes at the neck for having a moveable head is very interesting. Such terracottas have been found at Mohenjodaro and Harappa'. The head of such a terracotta was intended to be attached to the body of a quadruped, perhaps by means of bristle or stiff hair. The head could be moved backward and forward by means of a cord passing through the upper hole.

1. Moveable head of a monkey with two holes on the neck; the upper one is from front to back and the lower one being sidewise. Very well shaped. Red ware. No. 935. Length 1·85"; Period III. KR IV Z. Pl. LIIIB, No. 5.

#### (V) BIRD CHARIOTS AND CARTS

##### *Bird Chariots*

Bird chariots are still popular as toys in India. A hollow bird was pierced, probably by a stick, through two holes in its sides, one opposite the other. A stick or rod was passed through them to serve as an axle for two wheels on either side. A smaller hole going right across the neck or head supported a rod or stick to which a string was tied, facilitating the motion of the bird.

Bird chariots were usually supported by two wheels only, as is the case with all the bird chariots found in Kumrahar. Elsewhere, however, bird chariots having four wheels have been found.

1. Hollow model of a bird with expanded tail and widened mouth. The usual holes across the body and the neck; they are '5" and '45" in diameter respectively. No slip. Light red ware. Roughly made. This belongs to Period III, (c. A.D. 100-300). Length 3·8". No. 972. KR II N. Pl. LVII, No. 2.
2. Hollow model of a bird with narrow tail and widened mouth. Two holes across the body, each '35" in diameter. There is a hole in the neck. This hole is oval. No slip. Light red ware. Well shaped. This belongs to Period III. (c. A.D. 100-300). Length 2·9"; KR II C. Pl. LVII, No. 3.
3. Hollow model etc. as above, but fragmentary; only the back portion found. Diameter of the two holes which passes across the body is '35". This belongs to Period III. No. 941. KR II N.
4. Hollow model etc. as above. Tail broken. Two holes across the body for the axle of the two wheels, '35" in diameter. Two holes of oval shape across the neck for the pulling chord. The diameter of the upper hole is '4" and the lower hole is '5". Face not clear. No slip. Red ware. Well shaped. This belongs to Period III. Length '3"; No. 1. KR II C. Pl. LVII, No. 4.
5. Hollow model etc. as above. Only the upper portion with a widened tail was found. No slip. Light red ware. Well shaped. This belongs to Period III. No. 969. KR II N.
6. Hollow model etc. as above. Two holes across the body 3" in diameter. Two holes of oval shape across the neck '33" in diameter. Widened face and tail. No slip. Light red ware. Very well shaped. Length 3·6"; This belongs to Period III. No. 671. KR II L.

'Marshall, J., *Mohenjodaro and Indus Valley Civilisation*, p. 550 Pl. CLIII.39 and Vats, *Excavations at Harappa*, p. 452, Pl. CLXX 16-18.

## TERRACOTTA WHEELS

7. Similar to No. 4. above, but neck broken. This belongs to Period IV. No. 1803. KR IV XE<sup>2</sup>. Pl. LVII, No. 1.

### Carts

1. A play cart. Of the two holes for the axle, one is visible; the same is the case with one hole for the rope. Period V. KR IV K. Pl. LVII, No. 5.
2. Similar to the above. Traces of the broken rider visible between the two holes for the axle. This was moved not by a rope, but by a stick, the hole for which is visible. No. 1154. Period IV. KR IV XE. Pl. LVII, No. 6.

### Wheels

Thirtyone terracotta wheels were recovered, some having projecting axles (No. 974Z<sup>68</sup>, Pl. LVI B, No. 2). Like the wheels of the Sumerian sites, we have some having the hub projecting on both the sides (No. 166, Pl. LVI A, No. 2); we have also some of the Mohenjodaro type, i.e. having the hub projecting on one side only instead of both (Pl. LVI A, Nos. 1-5). There are some which have got no hubs, *e.g.* Sl. No. 5. Most of the unillustrated wheels belong to period IV.

Some of these terracotta wheels are hand-made; while others are wheel-made but rather rough. In some cases they show signs of wear in the axle-hole. This proves that some of them at least revolved on their axles. The view that these wheels might have been spindle-whorls is untenable; that they are the wheels of carts and other toys seem beyond doubt, as shown by the wear in the holes on both the sides.

1. No slip. Red ware. 3·56" in diameter and ·9" thick, including the hub on both sides. Hole in the centre ·5" in diameter on one side and ·36" in diameter on the other. Fragment. Four spokes of the wheel are shown by projection. Period III. No. 975Z<sup>68</sup>. KR II. Pl. LVI B, No. 2.
2. No slip. Light red ware. ·2" in diameter and 1·3" thick including the hub on both sides. Hole in centre ·25" in diameter. Period V. No. 166. KR IV K. Pl. LV A, No. 2.
3. No slip. Light red ware but black in a portion due to bad firing. Not well shaped. 2·2" in diameter and 1·4" in thickness including the hub on one side. Hole not in the centre. Signs of wear in the axle-hole. No. 315. KR IV G.
- ✓ 4. No slip. Red ware. Wheel-made. Very well shaped. 1·8" in diameter and ·5" in thickness. Hole in the centre, ·3" in diameter. No. 993. KR IV ZE.
5. No slip. Black due to firing. Hand-made. Well shaped. 1·6" in diameter and ·6" thick. Hole in the centre, ·2" in diameter. Period IV. No. 370. KR IV L. Pl. LV B, No. 1.
6. No slip. Red buff ware. Very well-shaped. Wheel made. The diameter and thickness is 1·4" and ·9" respectively and hole in the centre is ·2" in diameter. Slightly concave on both the sides. Only in this case two wheels were found at one place, of which one, No. 146, is illustrated here. Period IV. KR IV K. Pl. LV A, No. 1.
7. No slip. Light red ware. Hand-made and rough. 2·12" in diameter and ·85" in thickness. Hole, not in the centre, ·18" in diameter. No. 3. KR IV J.
8. No slip. Red ware. Not well shaped. Wheel-made, 1·1" in diameter and ·4" thick. Hole not in the centre, ·6" in diameter. Signs of wear and tear in the axle-hole. As the axle hole is on one side, there may be some doubt about its being a wheel. No. 15. KR V B.
9. Red slip on one side. Red ware. Very well shaped. Wheel-made. 1·6" in diameter and ·15" in thickness. Hole in the centre, ·25" in diameter. No. 27. KR IV J.
10. No slip. Not well baked. Well shaped. Wheel-made, ·16" in diameter and 1·2" in thickness including the hub. Hole in the centre, ·2" in diameter. Convex and projections on both sides. Period IV. No. 60. KR IV J. Pl. LV A, No. 3.



11. No slip. Light red ware. Hand-made. Poor workmanship. 2·06" in diameter and ·9" thick. Hole not exactly in the centre, ·35" in diameter. No. 67. KR IV J.
12. No slip. Light red ware. Wheel-made. Well shaped. 1·9" in diameter and ·85" in thickness including the hub on one side. Hole in the centre, ·25" in diameter. Signs of wear in the axle hole. Period IV. No. 87. KR IV J. Pl. LV A, No. 4.
13. No slip. Red ware. Very well shaped. Wheel-made. 1·48" in diameter and ·7" in thickness. Hole in the centre, ·15" in diameter. Signs of wear in the axle-hole. Slightly concave and projections near the end on both the sides. No. 101. KR IV K.
14. No slip. Light red ware. Bad firing. Hand-made. Poor workmanship. 2·10" in diameter and 1·5" in thickness including the hub. Hole in the centre, ·56" in diameter. Hubs projecting on both sides. Signs of wear in the axle hole. Concave on both sides. No. 105. KR V D.
15. No slip. Light red ware. Half baked. Hand-made. Roughly shaped. 1·6" in diameter and ·8" thick. Hole in the centre, ·25" in diameter. Concave on both the sides. No. 117. KR III C.
16. No slip. Red ware. Wheel-made. Well shaped. 3·4" in diameter and ·6" thick including the boss on one side. Hub is projected only on one side. Hole in the centre, ·65" in diameter. Signs of wear in the axle-hole. No. 119. Period IV. KR V D. Pl. LVI A, No. 2.
17. No slip. Light red ware. Half baked. Wheel made; very well shaped. 2·10" in diameter and ·7" thick including the boss on one side. Hole in the centre, ·6" in diameter. Hub is projected only on one side. No. 123. Period IV. KR V D. Pl. LVI A, No. 3.
18. No slip. Light red ware but black due to bad firing. Hand-made. Thumb impressions visible. 2·22" in diameter and ·72" thick including the boss on one side. Hole in the centre, ·4" in diameter. Signs of wear in the axle hole. No. 211. KR IV H.
19. No slip. Red ware. Well shaped. Wheel-made. 2·7" in diameter and 1·12" thick. Hole in the centre, ·6" in diameter. Signs of wear in the axle hole. No. 257. KR IV C.
20. Fragment. No slip. Red ware but looking black, due to bad firing. Hand-made. Not well shaped. 1·85" in diameter and ·7" thick including the boss on one side. Hole in the centre, ·25" in diameter. Signs of wear in the axle hole. No. 258. KR IV C.
21. No slip. Red ware. Hand-made. Poor workmanship. 2·19" in diameter and ·87" thick including the boss on one side. Hole not in the centre, ·45" in diameter. Signs of wear in the axle-hole. No. 301. KR IV G.
22. No slip. Light red ware. Roughly shaped. Poor workmanship. 1·2" in diameter and ·7" thick. Hole in the centre, ·25" in diameter. Signs of wear in the axle-hole visible only on one side of the wheel. No. 303. KR IV G.
23. No slip. Red ware. Hand-made. 2·22" in diameter and ·88" thick. Hole in the centre, ·4" in diameter. Having the hub projected on one side only. Signs of wear in the axle-hole. No. 451. KR IV O.
24. No slip. Light red ware. Hand-made. 2·15" in diameter and ·8" thick. Hole in the centre, ·4" in diameter. Signs of wear in the axle-hole. No. 502. KR IV.
25. No slip. Red ware. Hand-made. Crude and roughly shaped. 2·4" in diameter and ·75" thick. Hole in the centre, ·28" in diameter. No. 690 KR II L.
26. Similar to above. 2·25" in diameter and ·45" thick. Hole in the centre, ·4" in diameter. No. 795. KR II L.
27. No slip. Light red ware. Wheel-made. 1·5" in diameter and ·9" thick including the boss. Hole in the centre, ·25" in diameter. Signs of wear in the axle-hole. Concave on both the sides. No. 903. Period c. 1700 A. D. KR II N. Pl. LV A, No. 5.
28. Fragment of a wheel. No slip. Red ware, 3·1" in diameter and ·6" thick, including the boss on both sides. Hole in the centre, ·5" in diameter. Seven spokes of the wheel are shown by projection. No. 920. Period III. KR II. Pl. LVI B, No. 5.

## TERRACOTTA CONES WITH POINTED TOPS

29. No slip. Light red ware. Wheel-made. Very well shaped. '55" in diameter and '3" thick including the boss on one side. Hole in the centre, '05" in diameter. Period III. No. 975S. KR II N. Pl. LVI A, No. 1.
30. No slip. Red ware but black due to bad firing. Hand-made. Roughly shaped. 1'75" in diameter and 1'25" thick including the hubs on both sides. Hole in the centre. No. 1716. Locus IV XE. Period IV. KR. IV ZW. Pl. LV A, No. 6.
31. No slip. Red ware. Hand-made. 2'85" in diameter with a hole in the centre. No. 2100M; KR TD. Period IV. Pl. LV B, No. 3.
32. No slip. Red ware. Diameter, 1'75". No hub. Hole in the centre. KR IV Z. Period III. Pl. LV B, No. 4.
33. Red ware; no slip. Diameter 1'5"; Hub on one side. No. 1761. KR IV Z. Period III. Pl. LVI A, No. 4.
34. Fragmentary, red ware. Diameter 2'05". Hub on one side. Slightly concave towards the hub. No. 2137. Period IV. KR TF. Pl. LVI A, No. 5.
35. Fragmentary wheel with nine spokes. Red ware. Traces of hub on one side. Diameter 3'1"; No. 2404. Period IV. KR T G. Pl. LVI B, No. 1.
36. Fragmentary wheel with four spokes. Red ware. No. 2108. KR TG. Pl. LVI B, No. 3.
37. Fragmentary wheel with two concentric decorative circles, containing decorative spokes. Red ware. Traces of mica-smeared body. Period III. No. 2518. KR VII N. Pl. LVI B, No. 4.

## (VI) BALLS

The total number of terracotta balls found at Kumrahar is eightyeight. They are usually plain and well-rounded. They may have been used either as pebbles or as pellets for sling or slingbow. We know that such balls have been found in Sumer, Egypt, the Indus Valley and other places not only in terracottas but also in other material, e.g. shell, faience, stone etc.

They are solid and hand-made. These balls are found from the earliest times, and they occur practically in all the periods. The number of balls in the upper layers is large. They are red in colour but due to bad firing some have become black. Slip has not been used on any ball. One of them is decorated by 14 dotted lines (Pl. LVIII, No. 7).

The diameters of these balls vary from 1'52" to '33". Pl. LVIII illustrates 28 of these balls of different dimensions.

## (VII) CONES WITH POINTED TOPS

Thirty terracotta cones were found from all over the sites in our excavations. They belong to Periods III and IV (*c.* A.D. 100-450). They are baked very hard. They are mostly hand-made. In colour the cones range from light red to a dark-brown colour, which appears black. Some of them are made with a special clay of very compact nature and are fired in the kiln in such a way that they shine. One of the commonest forms is shown in Plate LXI, Nos. 4 and 8.

One variety of these cones has flat base which readily stands up; (Pl. LXI, Nos. 2, 18, 20). They belong to Period IV.

One cone (Pl. LXI, No. 12) has got a decorative, club-like head, having incisions. In some other cases the incisions are wanting (Pl. LXI, Nos. 15 and 21). Plate LXI illustrates 25 such cones.

It is possible that cones like Pl. LXI, Nos. 15 and 21 may have a phallic significance; but that is not true of the others. Can they be ear pendants? But they have no holes or depressions at the top. The other possibility may be that cones may be some play objects for children; or they may have been used as pointed darts from sling bows. It may be further pointed out that the points of most of these cones are broken.

Similar terracotta cones were found at Mohenjodaro, Jemdet Nasr and other places. Kumrahar cones have neither decorations on their surface nor holes in the base, as is the case with many cones found in Mohenjodaro. They are quite plain, as is the case with most of these cones found at Jemdet Nasr in Mesopotamia<sup>1</sup>.

### (VIII) SKIN RUBBERS

The use of terracotta flesh or skin rubbers has a long tradition in India. The earliest dated specimens are those which are attributed to the Harappan culture. In the prehistoric period Indian skin rubbers were generally barrel-shaped or rounded with smaller incisions on the body. The Buddhist literature refers to earthen ware foot rubbers, the use of which was forbidden by the Buddha. The use of skin rubbers is universal in India both in point of time and distribution. In Bihar and U.P. they are called as *Jhāvā* or *Jhāmā*. Here at Kumrahar we have found ten specimens. They take the form of rectangular or oblong or parallelogram or trapazium tablets roughened on both sides. At Taxila we have found some specimens with loop-handles. All the skin rubbers described below belong to the period IV i.e. c. A.D. 300-450. Most of them are light in weight and belong to period IV, unless when stated otherwise.

1. Flat hard-baked trapazium skin rubber of red clay with incised lines on both sides. It is heavily mixed with sand to make the surface rough. It is also tapering towards one end which is broken. Length 3·4"; KR II N.
2. Similar to the above with zigzag lines. Broken. Length 2·15"; KR IV.
3. Similar to the above. Length 2·1". Breadth 3·2" and 2·22". No. 84. KR V C.
4. Flat rectangular skin rubber of red clay. Surface scored with more or less parallel lines and two parallel lines are divided by several vertical lines. Hand-made; not light in weight. The other side is plain. Length 2". Breadth 1·3". No. 171. KR IV K.
5. Oblong skin rubber of red clay with pointed end; heavily mixed with sand. The surface is divided into two parts by a line. The other side is convex; hard baked and also divided by a line. Length 2·4"; No. 404. KR IV K.
6. Flat rectangular skin rubber of red clay. One side of the surface is divided by several lines. The other side is plain. Hand made. Not hard baked. Length 1·9"; No. 854. KR IV Y.
7. Flat rectangular skin rubber of red clay mixed with sand; both sides incised with arrow head marks. Hard baked. Length 2·9". Breadth 2·2". No. 340. Period III. KR III C. Pl. LXVII, No. 1.
8. Similar to the above but with less mixture of sand. Not hard baked. A hole towards one end. Length 3·1". Breadth 2·3". No. 1127. KR II R. Period V. Pl. LXVIII, No. 2.
9. Flat parallelogram skin rubber of red clay heavily mixed with sand to make the surface rough. Surface is decorated with some beautiful pattern. The other side is plain. Broken. Length 2·3". Breadth 2". No 910. Locus as above. Period IV. Pl. LXVIII, No. 5.

<sup>1</sup>Cf. *Mohenjodaro and the Indus Civilization* by Marshall, Vol. II, p. 478 ff. These terracotta cones were in use at Ur and Warka in Babylonia for decorative purposes, but there is no evidence to prove that either at Mohenjodaro or at Kumrahar they were thus used.

## MISCELLANEOUS TERRACOTTA OBJECTS

### (IX) BRICKS

#### (a) *Dimensions of bricks*

The accompanying table printed on p. 128 gives the dimensions of the bricks used at Kumrahar in the various periods and for different purposes. We did not find any structure of Period I (before 150 B. C.) and so cannot give dimensions of the bricks of that period.

In general it would appear that the bricks used in the earlier levels were larger than those in the later levels.

#### (b) *Carved Bricks*

Fragments of carved bricks were found only in Period IV in the KR IV. Apparently they were not used earlier. It would appear that the outer walls of the Ārogyavihāra of the Gupta period were decorated with carved bricks.

1. A brick piece decorated with a complex design. KR IV. Pl. LXXVI, No. 1.
2. A brick piece, bearing a row of triangular designs above another of rectangular ones. KR IV. Pl. LXXVI, No. 2.
3. A brick piece with chess design. KR IV. Pl. LXXVI, No. 3.
4. The same as above. KR IV. Pl. LXXVI, No. 4.
5. A brick having a complex beautiful design. KR IV. Pl. LXXVI, No. 5.
6. A corner brick piece with a floral design. KR IV. Pl. LXXVI, No. 6.
7. A brick piece, decorated with a vertical row of squares with slanting lines emanating from them. A row of squares at the bottom. KR IV. Pl. LXXVI, No. 7.
8. A decorated brick piece. Two horizontal parallel lines in the centre; above them a horizontal line of diamond pattern; below them, a row of rectangles. KR IV. Pl. LXXVI, No. 8.
9. A brick piece decorated with a floral design. KR IV. Pl. LXXVI, No. 9.
10. A small brick piece with a floral design. KR IV. Pl. LXXVI, No. 10.
11. A brick piece with its both sides decorated with a beautiful carved design. KR IV. Pl. LXXVI, No. 11.

### (X) MISCELLANEOUS TERRACOTTA OBJECTS

A number of small terracotta objects were found but in some cases it is difficult to say what was their purpose. Some of these objects are decorated with reliefs or with geometric designs. One of these seems to be an amulet. Others are only plain.

1. A rectangular flat surface with various geometric designs on both the sides. Broken. This belongs to Period III. No. 1111, KR IIR. Pl. LXVIII, No. 3.
2. A square object with four circular depressions in the four corners and one in the centre. These circular depressions are surrounded by a circle made of dots. It is a replica of the *pañchāyatana* form used by religious devotees. The other side is flat. Red slip. It belongs to Period V, A.D. 450-600. No. 1162. KR IV. Pl. LXVIII, No. 4.
3. A circular object with two concentric circles of red ware. Hand made. It belongs to Period V. No. 1717. KR IV XE. Pl. LXVIII, No. 6.
4. A circular object with some decoration in relief. It belongs to Period IV. No. 1719. KR IV XE. Pl. LXVIII, No. 7.
5. A circular object with a circular depression in the middle. The side of the object is incised. It belongs to Period V. No. 1403. KR IV XA. Pl. LXVIII, No. 8.

TABLE SHOWING DIMENSIONS OF BRICKS

Name of the site	Period II, c. 150 B.C.—A.D. 100			Period III, c. A. D. 100—300			Period IV, c. A.D. 300-450			Period V, c. A.D. 450-600		
	Max.	Min.	Normal	Remarks	Max.	Min.	Normal	Remarks	Max.	Min.	Normal	
KR I Length Breadth Thickness	1'7" 12" 2'5"	1'5" 10'5" 2"	1'6" 11" 2"		1'6'5" 1" 2'5"	× × ×	1'6" 12" 2'25"		1" 11'5" 2"	× × ×		
KR II Length Breadth Thickness	1'6" 12" 2"	11'5" 11'5" 1'75"	1'1" 11" 1'75"		1'6" 11'5" 2'25"	× × ×	1'5" 10'5" 2'25"		1'3" 9'5" 2"	× × ×		
KR IV Length Breadth Thickness	1'6" 12" 2'5"	1'45" 10'45" 1'75"	1'5" 11" 2"		1'8" 10" 4"	1'4" 7" 3"	1'6" 9" 3'5"	Drain & Steps	1'35" 10" 2"	1'3" 9'6" 1'57"	1'3" 10" 2"	
					1'65" 12" 2'5"	1'4" 10'5" 1'75"	1'6" 12" 2'25"	Building of the western side of the Arogya- vihāra.				
					1'4" 10'5"	1'2" 10" 2"	1'3" 10" 2"	Building north- east of the Arogya- vihāra.				
									1'6" 2'5"	1'4" 10" 2"	1'6" 11" 2"	
									1'4" 1'12" 2"	1'2" 10" 1'5"	1'3" 12" 2"	

Some circular object for child's play (?) with a knob in the middle. It belongs to Period IV. No. 1717 A. KR IV XE. Pl. LXVIII, No. 9.

A broken amulet with solar design. It belongs to Period IV. Length 2'1"; No. 1717B. KR IV XE. Pl. LXVIII, No. 10.

A circular object with a solar design and a thin knob in the middle. The knob is surrounded by a pinched circle. It belongs to Period IV. No. 1120. KR II R. Pl. LXVIII, No. 11.

A damaru-shaped solid stand of red ware with depressions on both sides. It belongs to Period IV. No. 316. KR IV. Pl. LXVIII, No. 13.

Similar to the above. It belongs to Period III. No. 160. KR VII. Pl. LXVIII, No. 14.

A barrel-shaped object. Length 1'3". It belongs to Period IV. No. 1409. KR IV XA. Pl. LXVIII, No. 17.

A damaru-shaped ring. It belongs to Period III. Diameter 1'3". No. 1732. KR IV ZE. Pl. LXVIII, No. 18.

An armlet of a big terracotta. It belongs to Period IV. Length 2'5". No. 12. KR IV J. Pl. LXVIII, No. 19.

Similar to No. 10, but smaller. No. 316. KR IV.

A mould or die for stamping. Hollow inside with a handle. Simple design. Radiating lines with horizontal incision. Diameter 3'5". Height 1'8". No. 118. KR III C. Period III. Pl. LXXI, No. 1 (Elevation). Pl. LXXI, No. 2 (Plan).

A circular pedestal with incised carved impressions. Broken in the middle. Diameter 3'8". No. 115. KR V D. Period IV. Pl. LXXI, No. 3.

Roughly made lid with three holes for keeping fingers to catch. One hole at the top for putting the thumb and the two holes for the next two fingers. Surface not flat. The back is also not flat. Signs of wear are visible. Diameter 4'1". Height 2'3". No. 44. KR A. Period IV. Pl. LXXI, No. 4.

Similar to above. Flat surface. We have found several such lids. Diameter 3'8". Height 1'5". No. 146. KR II C. Period III. Pl. LXXI, No. 5.

A tile. It has a hole at one end. Two convex parallel lines in relief on the upper surface. KR IV. Period IV. Pl. LXXV.

A  
A  
A

## CHAPTER VIII

### MINOR ANTIQUITIES

#### (1) PERSONAL ORNAMENTS

##### (a) *Bangles, ear-rings, talismans, etc.*

PERSONAL ornaments made of copper and bronze, which have been found at Kumrahar, comprise wrist bangles, bracelets, ear-rings, finger-rings and ear pendants. The most common form of bracelet is plain circlet of thick wire with opening at one place, so that the bangle could be expanded when slipping it on the wrist. The commonest ear-ring is a plain circlet like the bracelet with one side pointed and the other having a loop, so that it may be fixed there. The finger-ring is very simple and plain without any design or pattern and it occurs from the Period II onwards (c. 150 B.C. to A.D. 600).

Apart from copper and bronze, ornaments were made of various other materials. Bangles of chalcedony, glass, ivory bone and terracotta were also recovered, as also a golden talisman imitating a Kushāṇa coin motif. Several beads of glass, crystal, agate, chalcedony, amethyst, carnelian, jasper, quartz and copper were unearthed.

1. Bronze ear-ring with a conch pattern. Length 1·2"; No. 16. KR II V.
2. Fragment of a copper wrist-bangle with beaded pattern and twisted end. Diameter 1·7"; No. 27. KR III B.
3. Piece of a bracelet made of thin band of copper with beaded pattern. Diameter 1·6"; No. 64. KR II B.
4. Fragment of a circular plain and simple ring with an inside depression. Diameter ·9"; No. 70. KR C.
5. A thin copper finger-ring. Plain. Diameter ·5"; No. 108. KR III C.
6. S-shaped piece, probably used as a die to stamp on ornament.<sup>1</sup> No. 462. KR IV O.
7. A broken copper crescented ear-ring with one end coiled. Diameter ·5"; No. 565. KR II K.
8. Fragment of a copper, plain and simple finger-ring. Diameter ·65"; No. 682. KR II L.
9. Fragment of a plain and simple circular ring. Diameter ·8"; No. 781. KR II.
10. Copper ear-ring with beaded pattern and pointed ends. Diameter ·5"; No. 904. KR IV Z.
11. A copper wrist bangle with open clubbed ends. Diameter 2·3"; No. 914. KR II N. Pl. LIX A, No. 3.
12. A pair of ear pendants of bell shape with two holes in each at the bottom for suspending some other object. Probably there was a ring for suspension at the top. No. 928. Length ·8"; KR IV Z. Pl. LIX A, No. 6.
13. Fragment of a copper bangle with one open clubbed end. The other face is incised. Diameter 1·35"; No. 939. KR II N.
14. Baby's copper wrist bangle with beaded pattern. Both ends clubbed. Diameter 1·2"; No. 979. KR II O.

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<sup>1</sup> Marshall, J.; *Taxila*, p. 583, Pl. 181, Nos. 191-3.

## PERSONAL ORNAMENTS

15. A copper, plain, simple and circular ear-ring with one end pointed and the other end flat with a hole. Diameter '9"; No. 981. KR II C.
16. Similar to No. 11 above, but one end broken and the other end pointed. Diameter '6"; No. 981 A. KR II O.
17. A copper ear-ring (*kundala*). One end is pointed and the other end is thick and has a loop. Diameter '45"; No. 1226. KR IV ZE<sup>2</sup>.
18. Piece of a thin wrist bangle with open ends, though broken. Diameter 1'9"; No. 1238. KR IV ZE<sup>2</sup>.
19. A wrist bangle of round wire with open knobbed ends. Diameter 2"; No. 60. KR IV F.
20. Small piece of a thin round bangle of green glass No. 123. KR III C.
21. A bangle piece of thick black glass; protruding convex body with grooves on both sides. No. 125. KR III C. Pl. LIX A, No. 5.
22. A bangle piece of thick black glass; convex body with grooves on one side. No. 580. KR II K.
23. An ivory bangle piece with a thick broad plain body. No. 798. KR II L. Pl. LIX A, No. 1.
24. A terracotta bangle piece apparently with a design of lines. No. 307. KR III N. Pl. LIX A No. 4.
25. A small bangle piece of a thin, broad and smooth chalcedony. No. 1286. KR IV ZE<sup>3</sup>.
26. A piece of bone bangle, roughly made. No. 101. Pl. LIX A, No. 2.
27. A golden broken talisman. It appears that ladies in Bihar were fond of preparing talismans in imitation of the gold coinage of the Kushāṇas, who were ruling over the province in the 2nd century A.D. One such talisman was found by Cunningham in the last century buried under the Vajrāsana at Bodha-Gaya. It bore the bust of king Huvishka on both the sides, as it appeared on his coinage. In the archaeological excavations carried out at Shaha Kamal Road in Patna City, another golden hollow talisman was found which bore on the obverse the aureate bust of Huvishka with the legend SHAONANOSHAO . . . OESHKI and standing Ardoksho on the reverse with the legend ARH△OXSHO. It was hollow and was obviously filled with lac to make it strong. It had two holes to render its suspension possible.<sup>1</sup>

The present golden talisman belongs to a similar category. As it is fragmentary, we cannot state whether it had suspension holes. The space between its two sides must have been filled with lac. It also imitates motifs of Kushāṇa coinage, but unfortunately they are not distinct.

On the obverse there is perhaps a standing figure in imitation of the standing king appearing on the coins of Kanishka, Vāsudeva and later Kushāṇa kings. The reverse appears to show the figure of Ardoksho seated on the throne. On the portion preserved the head is not visible, but the remaining part, crudely engraved as on the later Kushāṇa coins, can perhaps be made out. On both the sides there are traces apparently of Greek letters, perhaps beginning from the left of the king's or the Goddess' feet. On the reverse the first letter seems to be a Brāhmī śa or Roman SH, followed by two omegas, OO. The letters on the obverse cannot be made out.

Enlarged size, Pl. LIX B, No. 1.  
Size to size, Pl. LIX B, No. 2.

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<sup>1</sup> *J.N.S.I.*, x x p. 1

*Beads<sup>2</sup>*

The excavation yielded a total of eighty three beads besides terracotta beads (*ante*, p. 117). They were as follows : Period I, nil; Period II, seven; Period III, forty-three; Period IV, twenty-two and Period V, eleven.

The material of which the beads are made comprises agate, amethyst, carnelian, chalcedony crystal (quartz), copper, glass, granitic stones(?) with black bands, jasper, light stone, soapstone (steatite), ordinary stone, opal and plasma. Among semi-precious stones agate, chalcedony, and carnelian seem to be the favourite material. Agate and carnelian specimens come from all periods except period I. Glass specimens come from periods III and IV. The glass is either translucent or opaque and the range of colour is limited. The more common colours are green and blue. The excavations also yielded three varieties of quartz, viz. rose, milky, and smoky.

In period III crystal (quartz) and glass were the most common material at Kumrahar. In period IV glass was the common stuff.

Diverse are the shapes of beads; some are hexagonal, some spherical, some cylindrical, some elliptical, some drum-shaped, some prismatic and some square. Some have etched bands and some natural ones.

*Table showing period-wise distribution of beads obtained and classified according to their materials.*

Material	Periods					Total
	I	II	III	IV	V	
Agate ...		2	5	4	2	13
Amethyst ...		1				1
Carnelian ...		1	1	1	3	6
Chalcedony ...			5	1	1	7
Crystal (quartz) ...			11	3	2	16
Copper ...		1	1			2
Glass ...			13	11	2	26
Granitic Stones with black bands			1			1
Jasper ...		1				1
Light stone ...			3	1		4
Soap stone (Steatite) ...			2			2
Stone ...			1	1		2
Opal ...		1				1
Plasma ...					1	1
<b>Total</b> ...		7	43	22	11	33

<sup>2</sup> We are grateful to Dr. S. C. Chatterji, Head of the Patna University Geology Department, for helping us in identifying the material of some of the beads.



*Pl. LXXX.*

1. Natural Quartz (crystal). Hexagonal and Columnar. Period V.
2. Quartz. Hexagonal. Period IV.
3. Quartz (Crystal). Hexagonal and cylindrical. Period III.
4. Quartz (Crystal). Hexagonal, convex. Period III.
5. Quartz (Crystal) Collared; pendant. Period III.
6. Agate. Tablet-shaped; hexagonal in section. Period V.
7. Chalcedony. Collared bead. Period IV.
8. Opal. Spherical. Period II.
9. Chalcedony. Spherical but flat at two ends and having two rows of pentagonal facets. Period III. Twelve facets.
10. Quartz. Spherical. Period IV.
11. Glass. Spherical but broken. Gold paint above it superimposed by another glass-coating. Period III.
12. Glass. Cylindrical with facets. Period III.
13. Similar to the above but damaged. Period III.
14. Similar to the above but damaged. Period III.
15. Similar to the above but damaged. Period III.
16. Crystal. Hexagonal. Period III.
17. Amethyst. Hexagonal convex. Period II.
18. Crystal. Unfinished and unperforated. Period IV.
19. Glass. Circular tablet. Damaged. Period III.
20. Soapstone (steatite); as above. Period III.
21. Chalcedony. Spherical. Unfinished. Period III.
22. Chalcedony. Spherical. One half preserved. Period III.
23. Same as No. 11, but smaller. Period III.
24. Similar to the above.
25. Quartz. Cylindrical and convex; flat at both ends. Period IV.
26. Granitic(?) stone with black bands. Peculiar shape. Period III.
27. Light stone. Dirty greenish in colour. Period III.
28. Light stone. Similar to No. 26. Period III.
29. Similar to the above.
30. Green glass. Spherical. Period III.
31. Soap stone, light ashy. Side decorated with fish between two decorated designs imitating the spine of a fish.
- 31(a). Another side of the same bead; upper and lower decorative bands are the same as above; between them two squares with check pattern.
- 31(b). Another side, between the same decorative bands, Triratna and Dharmachakra symbols.
- 31(c). Another side, between the same decorative bands, two Svastikas. Period V.
32. White Agate. Cylindrical, having six etched white chalcedony bands. Period III.

*Pl. LXXXI*

1. Agate. Convex and cylindrical, bearing several whitish bands. Period II.
2. Same as the above. Period II.

3. Glass. Convex and cylindrical, having white etched bands, with double spiral bands. Period IV.
4. Similar to No. 3 above. Period IV.
5. Similar to No. 3 above. Period IV.
6. Agate. Convex and cylindrical. Period IV.
7. Glass. Broken. Period IV.
8. Agate. Four-sided; with a white band etched. Period IV.
9. Glass. Convex and cylindrical, broken with etched bands, probably imitating agate. Period III.
10. Agate. Conical, unfinished and unperforated. Surface find. Period I.
11. Carnelian. Spherical, unfinished; probably broken during perforation. Period II.
12. Carnelian. Spherical. Period III.
13. Carnelian. Spherical and spotted. Period V.
14. Carnelian. Spherical. Period V.
15. Carnelian. Spherical. Period IV.
16. Greenish glass. Spherical. Period III.
17. Light stone. Irregularly shaped. Period IV.
18. Green glass. Shape irregular. Period IV.
19. Jasper. Hexagonal and bi-pyramidal, having an upper and lower band of six facets. Period III.
20. Agate(?) or dark chalcedony(?). Spherical, but flat at two ends. Period III.
21. Glass. Spherical but flat at ends. Period IV.
22. Copper. Spherical but with 12 facets, flat at both ends. Pl. LXXXII No. 16 gives a side view of the same bead. Period II.
23. Green glass. Irregular shape. Period III.
24. Deep green glass. Shape irregular. Unstratified.
25. Stone. Round and tablet-shaped. Period III.
26. Blue glass. Elliptical and collared. Period III.
27. Green glass. Elliptical. Period V.
28. Chalcedony. Broken bead, with white bands. Period II.
29. Carnelian with sides. Period V.
30. Glass. Spherical, broken with an etched horizontal band. Period IV.

*Pl. LXXXII B*

1. Agate (?) Cylindrical but oval in section, bearing three horizontal black bands, probably etched. Period IV.
2. Banded agate. Cylindrical with several natural horizontal white bands. Period III.
3. Green glass. Cylindrical but convex in the centre. Collared. Period III.
4. Agate (six sides). One horizontal band. Period III.
5. Quartz. Spherical. Surface find.
6. Plasma. Spherical, but with several facets. Surface find.
7. Green glass. Cylindrical and convex. Collared. Period III.
8. Stone. Shape irregular. Period IV.
9. Glass. Drum-shaped. Glass coating over gold paint. Period III.
10. Green glass. Drum-shaped. Period IV.

## COPPER COILS

11. Similar to No. 7 above but slightly bigger. Period IV.
12. Copper. Cylindrical and convex. Period III.
13. Quartz. Convex in the middle. Period III.
14. Blue glass. Cylindrical and convex with collars at both ends. Period IV.
15. Agate. Drum-shaped. Three white and two black bands. Period IV.
16. Same as Pl. LXXXI, No. 22. Another view.

### Pl. LXXXII A

1. Quartz. Prismatic (with six sides). Period III.
2. Rose quartz. Cylindrical and convex, with 12 facets; hexagonal in section. Period III.
3. Smoky quartz. Prismatic with six sides. Period III.
4. Agate. Square tablet. Period IV.
5. Quartz (Crystal). Cylindrical and convex. Period III.
6. Milky quartz. Spherical. Period III.

### (3) ANTIMONY-RODS, EAR-CLEANERS AND TOOTH-PICKS

The above three categories are classified together, as any two of them are frequently combined. They take the form of short rods of copper, bone, ivory, etc. Here at Kumrahar we have found them only in copper. When used for putting the collyrium in the eye, the rod is slightly clubbed; when used as a nail-cleaner or toothpick, it is pointed; when used as an ear-cleaner, it has a tiny scoop. Some of these rods are clubbed at both ends; others have a club at one end and a point at the other. Antimony rods were used in Egypt and the West from a very ancient age. The clubbed antimony rods were used for ordinary painting under the eyes with lamp black. The earliest specimens found at Kumrahar date from the 2nd century B.C.—Period II; the latest from the 6th century A.D.—Period V; Nos. 2, 4, 7, 9 and 11 belong to Period II (*c.* 150 B.C.—A.D. 100); Nos. 3, 10 and 13 belong to Period III (*c.* A.D. 100-300); Nos. 1, 6, 12 and 14 belong to Period IV (*c.* A.D. 300-450); and No. 5 belongs to Period V (*c.* A.D. 450-600).

1. Rod for smearing antimony. Twisted in the middle. Length 4·5"; No. 21. KR IV G. Pl. LX, No. 1.
2. Rod for smearing antimony round the eyes. Both the ends clubbed but not pointed. No. 61. KR IV J. Pl. LX, No. 2.
3. Similar to the above. Length 4·3"; No. 950. KR II N. Pl. LX, No. 3.
4. A broken rod for smearing antimony round the eyes. One end is clubbed. Length 2·4"; No. 201. KR II D. Pl. LX, No. 4.
5. Pointed club ends on either side. Length 3·5"; No. 112. KR IV K. Pl. LX, No. 5.
6. Rod for smearing antimony round the eyes. Both the ends clubbed but pointed and broken in the middle. Length 4"; KR IV N. Pl. LX, No. 6.
7. Similar to the above but not broken. Length 4·5"; No. 61. KR IV J. Pl. LX, No. 7.
8. Similar to the above, but more pointed. Length 4·4"; KR IV J. Pl. LX, No. 8.
9. Similar to the above. Length 4·7"; No. 26. KR I. C. Pl. LX, No. 9.
10. Similar to the above. Length 5·1"; No. 915. KR I C. Pl. LX, No. 10.
11. A broken rod for smearing antimony. Length 3"; No. 61. KR IV F. Pl. LX, No. 11.
12. Rod clubbed at one end for smearing antimony round the eyes and the other end has a tiny scoop for ear cleaning. Length 3·9"; No. 444. KR IV N. Pl. LX, No. 12.

13. Combination of an ear-cleaner and a toothpick. There is a hole near the toothpick. Probably it was tied with a string round the neck. The middle portion is twisted. Length 4.1"; No. 974. KR II N. Pl. LX, No. 13.
14. Rod for smearing antimony, clubbed at one end and pointed at the other. Length 4.6"; No. 26. KR III A. Pl. LX, No. 14.

## (4) DICE

It is very interesting that we have found one terracotta and two ivory dice. It appears that the monks during their convalescence used to play with dice. This is a very old game coming down from the Vedic period. It is well known that the four sides of the dice were known as *kṛita*, *tretā*, *dvāpara* and *kali* and used to have 4, 3, 2 or 1 engraved or written upon them. On our ivory die also, the case is the same, there being 4 artistic circles on one side and 3, 2 and 1 on the remaining. Both the ivory dice belong to Period IV (c. A.D. 300-450).

1. An oblong playing die of ivory with 1, 2, 3 and 4 small circlets on four consecutive sides. No. 46. Size 1.4" × .75" × .5". KR IV J. Pl. LXVIII, No. 15.
2. Similar to the above but broken. No. 417. Size 15/16" × 9/16" × 9/16". KR II N. Pl. LXVIII, No. 16.
3. A terracotta cubical playing die. This die is marked like the present day die in such a way that the sum of the points of any two opposite sides amounts to seven. This belongs to Period III. Size 55", No. 1883. KR IV XD. Pl. LXVIII, No. 12.

## (5) AMULETS

We have found five amulets. They belong to Periods III, IV and to the 17th-18th centuries. They are made of copper and stone.

1. A copper leaf pattern amulet with a hook at the top. It belongs to Period III. No. 102 A. KR IV K.
2. An oval shaped thin copper amulet with two holes at the two ends. No inscription. Period IV. Size 1.2" × .6"; No. 789. KR II L.
3. A circular thin copper amulet with a hole in the centre. No inscription. It belongs to Period II. Diameter .8"; No. XXA. KR IV J.
4. Similar to above. It belongs to Period IV. Diameter 1.2"; No. 1281. KR IV ZE<sup>3</sup>.
5. A hexagonal shaped stone amulet having two protrusions and a hole for suspending it. No inscription. It is probably of 17th-18th century. Size 2" × 1"; No. 338. KR V H.

## (6) COPPER COILS

Several coils of copper were found in Kumrahar excavations belonging to Period III. A thin copper coil, about 6" in breadth and about .05" in thickness, was wound round a rod about  $\frac{1}{8}$ " in diameter for about 12 to 20 times to form a coil and then the rod was taken out. These coils look like reels with concave surface in the breadth. What their purpose was is difficult to understand. We quote below the view of Dr. B. B. Lal, the Archaeological Chemist.

"The specimen is not of lead but appears to be a coil of copper or low tin bronze. From a qualitative examination it has been found to contain mainly copper, a little tin, a light trace of lead, and a small proportion of zinc. There is no nickel in the specimen. The intensive corrosion which the coil has undergone has made it brittle and unfit to be uncoiled. The present shape of the specimen does not appear to be of any particular significance, as the coil is probably just a coil of metal wound round on itself for purposes of easy storage, as is even the present practice. On account of accidental pressure the central folds of the coil appear to have been pushed out." The coil illustrated belongs to Period III. No. 1811. KR IV XE<sup>2</sup>.

Plan—Pl. LXXIX B, No. 1. Elevation—Pl. LXXIX B, No. 2.

## CHAPTER IX

### STONE OBJECTS

STONE objects were found practically from all the periods of excavations. The most remarkable ones among them are fragments of polished sandstones found in Periods I, II and III. As they are well known, they are not illustrated. Special attention may, however, be drawn to grooved sandstones with unmistakable Mauryan polish, (Sl. Nos. 5-9). They are too fragmentary to give any indication of the purpose for which full stones with such grooves were used. We have found a few sculptures also. We describe these objects below.

#### (a) MISCELLANEOUS OBJECTS.

1. *Ushnisha* (coping stone of balustrade) rounded at the top. The front side is elegantly carved with the design of a vine creeper with bunches of grapes issuing out of the mouth of a crocodile which is engraved in the right hand corner. Above the creeper is a row of leaves. There are three sockets below for three small railing pillars (*vedikā*). The distance between the first two is 11" and the 2nd and 3rd is 10·5". The dimensions of these sockets are 3·25" × 1·25" × 1·4"; 3·1" × 1·5" × 1·5" and 2·5" × 1·75" × 1·75". At the top of these patterns, there is a row of leaves. This belongs to Period II (c. 150 B.C. to A.D. 100). Dimensions 3'4" × 7" × 4·5". No. 77 B; KR. Pl. LXII.
2. The sandstone crossbar of a balustrade, convex on both the sides, which are quite plain. Size 7·3" × 6". Thickness at the centre 2". No. 103A. KR IV K. Elevation: Pl. LXIV A, Cross section: Pl. LXIV A, No. 2.  
Fifteen such fragmentary crossbars were found belonging to Periods II and III in KR IV.
3. Fragmentary crossbar of a balustrade, convex on both the sides. The back side is plain, but the front one is sculptured and shows a male devotee, making obeisance to a Stūpa in his front. He is wearing turban, ear-rings, bracelets, an indistinct upper garment and a *dhoti*, showing several folds. The Stūpa has a *harmikā* at the top with an umbrella; garlands are hanging down. The Stūpa is plain, but is surrounded by a balustrade; it belongs to Period IV (c. A.D. 300-450). Length 7·5". Breadth 8·5". Thickness at the centre 3". KR V D. Pl. LXIII.
4. Fragment of a sandstone with Mauryan polish, having eight grooves on one side. The average distance between the grooves is 3". The back side is plain but polished. Dimensions 3·5" × 1·5" × 1·7". Period III. KR IV K. Pl. LXIV B, No. 4.
5. Similar to the above. Period II. Dimensions 4·8" × 3" × 1·5". No. 115 A. KR IV K Pl. LXIV B, No. 1.
6. Similar to the above. Polished, back side not preserved. Dimensions 3·5" × 1". Period III. No. 610; KR IV F.
7. Similar to the above, but with 10 grooves. Dimensions 5" × 1·5". KR IV C. Period II. Pl. LXIV B, No. 3.
8. Similar to the above but curved. There are horizontal lines between the grooves. Dimensions 5" × 2·5" × 1". No. 979Z<sup>81</sup>; KR II N.
9. Similar to above. Polished back side not preserved. Dimensions 2·7" × 1·3". KR IV K. Period II.
10. Fragment of a sandstone with Mauryan polish on two sides which meet at right angle. Period II. Dimensions 6·5" × 1·7" × 1·3". No. 603; KR IV E. Pl. LXIV B, No. 5.

11. Fragment of an octagonal sandstone; only two sides have been preserved and they bear Mauryan polish. Dimensions  $1.7'' \times 1.5''$ . No. 10; KR IV B. Period III. Pl. LXIV B, No. 2.
12. Fragment of a sandstone bowl, having the radius of  $12.75''$  with a groove at the rim. Both the inner and outer sides have the Mauryan polish. This belongs to Period II. Pl. LXVI, No. 4.
13. A rectangular decorated black slate stone. Two semi-circles in opposite directions are incised with a *damaru* design between them. Decorated border on all sides. Back is plain. Dimensions  $2.1'' \times 1.8'' \times .4''$ ; No. 51. KR IV. Surface find. Pl. LXVI B, No. 7.
14. A rectangular black slate with a leaf of *Pipal* pattern on both sides. One leaf is bigger than the other. There is a hole to the right of the bigger leaf, not, however, reaching the other side. Probably an object of worship. Dimensions  $3.7'' \times 3.2''$ ; No. 704. KR II L Period III. Pl. LXVII A, No. 3.
15. Square sandstone, plane on the back and decorated on the front. The field of the front is divided into two portions by a double line. At the top a couchant lion. The lower portion is plain but a decorated narrow strip on either side. Dimensions  $4.2'' \times 4.2''$ ; No. 252. KR III F. Period V. Pl. LXVII A, No. 1.
16. Fragment of a sandstone with engraved fish, which is partly preserved. Dimensions  $4.6'' \times 3.8''$ ; KR IV L. Period V. Pl. LXVII A, No. 2.
17. Fragment of a black slate stone dish with a leaf pattern incised on the rim. Probably a circular seat for an image. No. 352. KR II G. Period III. Pl. LXVI B, No. 2.
18. Fragment of a rectangular or square black slate stone. There is a depression in the middle, which is flanked by three concentric circles. Leaf patterns are incised in the margin. Probably an *āsana* for an image to be seated on it. Dimension  $2.6'' \times .2''$ ; No. 1183. KR II S. Period V. Pl. LXVI B, No. 8.
19. Fragment of a head and bust of a sandstone sculpture. Head is broken. Hands are folded. Dimension  $3.8'' \times 3''$ ; No. 1188. KR IV ZE<sup>1</sup>.
20. Fragment of a square slate stone with an incised conch. Length  $2.8''$ . Breadth  $2.8''$ . KR IV J. Period IV. Pl. LXVI B, No. 3.
21. Fragment of a sandstone sculpture. Only palm with four fingers are preserved. This belongs to Period III. No. 975Z<sup>47</sup>. KR II N. Pl. LXVI A, No. 2.
22. A carved fragmentary piece of red sandstone. No. 68. KR VC. Period III. Pl. LXVI A, No. 3.
23. A soapstone pot worked on lathe. No. 1182. KR II S. Period IV. Pl. LXVI A, No. 1.
24. A sandstone wheel with a hole in the centre, having the decoration of the wheel design. No. 1109. KR II R. Period III. Pl. LXVI B, No. 5.
25. A rectangular piece of slate stone, decorated with horizontal and vertical lines. Surface find. Pl. LXVI B, No. 1.
26. Fragment of a decorated slate stone. No. 664. KR II L. Period III. Pl. LXVI B, No. 4.
27. Similar to the above. No. 359. KR V J. Period III. Pl. LXVI B, No. 6.
28. A sandstone wheel, with a hole in the centre. Concave on one side, where it is slightly polished. This side is shown in the plate. No. 333. KR III N. Period V. Pl. LV B, No. 2.
29. Fragment of a white hard stone; perhaps a striker. No. 1654. KR IV XC. Period III. Pl. LXXII B, No. 1.
30. As above, but different in shape. No. 1452. KR IV XA. Period III. Pl. LXXII B, No. 4.
31. Fragment of a small stone pot with black and white stripes. No. 1004. KR II P. Period IV. Pl. LXXII B, No. 2.
32. Another fragment of the same pot. No. 1004. K II P. Period IV. Pl. LXXII B, No. 3.
33. A broken rectangular slab, decorated with triangular and circular designs arranged in a row. A horizontal groove below them, meeting another which is vertical. A fish symbol. No. 2152. KR VII F. Period IV. Pl. LXXII B, No. 5.

## STONE OBJECTS

34. Fragmentary white marble piece, perhaps part of a petal. KR IV N. Period III.  
Pl. LXXII B, No. 6.
35. Fragment of a soap-stone pot with corrugated body. No. 1219. KR II T. Period III.  
Pl. LXXII B, No. 7.

### (b) STONE CAPITAL BASES

Two stone capital bases were found in two places in the long trench KR TD; one of these is illustrated in Pl. LXV, A and B. Apparently they were intended for two different pillars at the entrance of the Hall. One of the capital bases which is slightly broken on one side is 16·7" in height (Pl. LXV, A), and has five facets (apart from the two on either side of the hole), which are five inches broad. The five facets exposed to view are 9", 7·8", 9", 7·6", 9" broad respectively. These can be seen in Pl. LXV B. The three central facets are slightly concave, as will be seen from the above plate. The most remarkable thing is that out of the height of 16·7", only the upper portion, measuring 6·6", has been polished. Nor is there any polish on the two sides 5" broad flanking the socket. These were obviously not exposed to view.

The most plausible explanation that can be offered of these two bases is that they surmounted the pillar, but the lower portion was concealed in the lower portion of the roof and was therefore left unpolished. The remaining portion of the base of the pillar was visible from outside but its back was probably covered by a roof over the four porch pillars. The semi-circular socket at the back side (Pl. LXXVIII B), which has a diameter 10" at the top and about 12" at the bottom, was intended for a tapering wooden stump<sup>1</sup> intended to firmly fix the basis in position. Most probably the basis was surmounted by a capital.

The demarking lines of the front facets have been extended in straight lines to the outer edge of the nearer facet on either side of the socket (Pl. LXXVIII B). The entire top has been given what is known as the Mauryan polish.

### MAURYAN POLISH

We give below a short note on the polished Mauryan sandstones from Kumrahar, kindly supplied to us by Dr. B. B. Lal, the Archaeological Chemist.

"The two samples of polished stone fragments of the Mauryan pillar from Kumrahar examined by me do not seem to carry any coating or film and there is no foreign matter, whatsoever on the smooth stone surface. The polish has been found to be due to the effect of rubbing the stone with a hard stone powder or abrasive. The technique of preparing highly polished stone surface evidently consisted in rubbing the surface with a suitable abrasive, such as carborundum or some similar abrasive. Such highly polished surface can be easily prepared in the laboratory".

### (c) CHALCEDONY FLUTED CORE

A solitary piece of chalcedony fluted core was discovered at Kumrahar, 1·2" in length. The microliths and microlithic cores from Nevasa, Maheshwar etc. go back to a very great antiquity<sup>2</sup>. The core at Kumrahar was probably an accidental survival in a later period. Parallel sided blades have been removed vertically from the core and also from the top, which was earlier used as a striking platform. Period I. Length, 1·2", No. 2643; KRV II.  
Pl. LXVII B.

<sup>1</sup> The Mauryan pillars of the hall had also sockets at the top. But they were only 3·8" in diameter and were obviously intended for copper bolts. Since this socket is 12" in diameter at the bottom, it has been presumed that it was for accommodating a wood stump and not a copper bolt.

<sup>2</sup> We are grateful to Dr. H. D. Sankalia for this information.

## CHAPTER X

### IRON OBJECTS

A considerable number of iron objects have been found, but the vast majority of them were in so fragmentary and corroded a state that even their form was unrecognisable. Majority of these objects are nails. Iron objects have been found from all the levels.

#### *Figs. 39 to 43*

1. Fragment of a nail. Rectangular in section. Length 2·2"; No. 23. KR IV O. Fig. 39, No. 1.
2. Nail with expanded triangular head, bent. Length 2·1"; No. 856. KR IV Y. Fig. 39, No. 2.
3. Nail with broken head. Length 1·11"; No. 1236. KR IV ZE<sup>2</sup>. Fig. 39, No. 3.
4. Nail with almost circular section. Length 2·2"; No. 38. KR II A. Fig. 39, No. 4.
5. Nail with flat hook head. Length 1·6"; No. 114. KR III B. Fig. 39, No. 5.
6. Similar to the above No. 2. Length 2·1"; No. 453 b. KR IV O. Fig. 39, No. 6.
7. Similar to the above No. 5. Length 1·9"; No. 315. KR II F. Fig. 39, No. 7.
8. Nail with circular section and broken head, gradually tapering to a point. Length 2·1"; No. 48. KR IV Y. Fig. 39, No. 8.
9. Nail with a knob head. Length 2·1"; No. 855A. KR IV Y. Fig. 39, No. 9.
10. Fragment of a nail. Length 2"; No. 19. KR III B. Fig. 39, No. 10.
11. Nail with expanded triangular head. Length 2·3"; No. 1058. KR IV ZW. Fig. 39, No. 11.
12. Nail with flat hook-head. Length 1·7"; No. 110. KR III C. Fig. 39, No. 12.
13. Fragment of a nail. Length 2·25"; No. 429. KR IV N. Fig. 39, No. 13.
14. Implement; indeterminate use. Length 2"; No. 184. KR IV K. Fig. 39, No. 14.
15. Similar to the above No. 11. Length 1·8"; No. 453B. KR IV O. Fig. 39, No. 15.
16. Fragment of a nail with a circular section. Length 1·9"; No. 202. KR III D. Fig. 39, No. 16.
17. Fragmentary head of a nail with flat head. Length 1·3"; No. 101. KR II C. Fig. 39, No. 17.
18. Fragment of a nail with knob head. Length 1·6"; No. 66. KR V C. Fig. 39, No. 18.
19. Fragment of a nail with circular section and circular flat head. It belongs to Period I. Length 1·3"; No. 71. KR B<sup>1</sup>. Fig. 39, No. 19.
20. Fragment of a nail with flat hook-head. Length 1·1"; No. 3. KR TT. Fig. 39, No. 20.
21. Similar to the above No. 20. Length 1·4"; No. 145. KR IV K. Fig. 39, No. 21.
22. Nail with a knob head. Length 1·3"; No. 10. KR I TT. Fig. 39, No. 22.
23. Fragment of a nail with flat hook-head. Length 1". No. 51; KR A. Fig. 39, No. 23.
24. Nail with flat hook head. Length 1·2"; No. 161. KR IV K. Fig. 39, No. 24.
25. Similar to above No. 23. Length 1·15"; No. 16. KR IV B. Fig. 39, No. 25.
26. Nail with broken head, bent. Length 3·8"; No. 760. KR IV X. Fig. 40, No. 26.
27. Nail with flat shank and a broad flat head projecting to one side of the shank. Length 3·6"; No. 159. KR IV K. Fig. 40, No. 27.



## IRON OBJECTS

28. Nail with expanded triangular head. Length 3·4". No. 453; KR IV. Fig. 40, No. 28.
29. Similar to No. 23, but bent. Length 3·1". No. 901; KR IV Z. Fig. 40, No. 29.
30. Nail without head and tapering to a point. Length 2·3". No. 65; KR V C. Fig. 40, No. 30.
31. Nail with a broken head. Length 3·5". No. 373. KR IV L. Fig. 40, No. 31.
32. Nail with circular section and head. This belongs to Period II. Length 2·10". No. 354; KR V J. Fig. 40, No. 32.
33. Nail with knob head. Length 3". No. 21; KR III B. Fig. 40, No. 33.
34. Nail with expanded triangular head. Bent, length 2·10". No. 202; KR IV H. Fig. 40, No. 34.
35. Nail with circular section and knob head. Length 2·7". No. 11; KR III. Fig. 40, No. 35.
36. Similar to No. 2. Length 2·6". No. 251; KR III E. Fig. 40 No. 36.
37. Nail with flattened head and tapering gradually to a point. In the middle of the head is a small hole. Length 2·5". No. 136. KR IV K. Fig. 40, No. 37.
38. Nail with knob head. Length 2·7". No. 752; KR IV X. Fig. 40, No. 38.
39. Nail with broken head, gradually tapering to a point. Length 2·5". No. 905; KR IV Z. Fig. 40, No. 39.
40. Similar to above No. 22. Length 2·2". No. 997; KR II O. Fig. 40, No. 40.
41. Nail with rectangular section and broken head. Length 2·2". No. 1059; KR IV ZW. Fig. 40, No. 41.
42. Nail with broken head and circular section tapering gradually to a point. Length 2·4". No. 57; KR IV J. Fig. 40, No. 42.
43. Nail with expanded triangular head, bent. Length 2·6". No. 114; KR IV K. Fig. 40, No. 43.
44. Nail with circular section and head. Length 2·10". No. 354. KR V J. Fig. 40, No. 44.
45. Nail of circular section with knob head, bent. This belongs to Period I. Length 2·4". No. 4; KR D<sup>1</sup>. Fig. 40, No. 45.
46. Nail with knob head, bent. Length 3·1". No. 855; KR IV Y. Fig. 41, No. 46.
47. Wire, bent on one side. This belongs to Period I. Length 2·4". No. 106A; KR IV K. Fig. 41, No. 47.
48. Nail without head and tapering to a point. Length 2·3". No. 975Z<sup>39</sup>. KR II N. Fig. 41, No. 48.
49. Fragment of a nail gradually tapering towards the end. Length 1·6". No. 65; KR V C. Fig. 41, No. 49.
50. Fragment of a ring. No. 251; KR III E. Fig. 41, No. 50.
51. Fragment of a nail with knob head. This belongs to Period I. Length 1·65". No. 25; KR IV J. Fig. 41, No. 51.
52. Nail tapering to a pointed end, bent. Length 4·11". No. 37; KR C. Fig. 41, No. 52.
53. Thick wire coiled at the top. Length 5". No. 9; KR IV J. Fig. 41, No. 53.
54. Fragment of a nail. Length 4·2". No. 106; KR III C. Fig. 41, No. 54.
55. Latch with provision for two nails. Length 4·10". No. 358; KR IV L. Fig. 41, No. 55.
56. Fragment of a blade of tanged knife. Length 1·3". No. 23; KR IV C. Fig. 41, No. 56.
57. Socket. Length 1·3". No. 13; KR II A. Fig. 41, No. 57.
58. Fragment of a blade. Length 1·3". No. 23; KR IV C. Fig. 41, No. 58.
59. Fragment of a latch. Length 1·2". No. 58; KR IV E. Fig. 41, No. 59.
60. Knife with pointed small blade and handle, the latter also of iron. Length 2·8". No. 84; KR IV J. Fig. 41, No. 60.

61. Fragment of a knife. Top bent. Length 2·3". No. 86; Fig. 41, No. 61.
62. Chopper-like object. Length 1·9". No. 61; KR II B. Fig. 41, No. 62.
63. Flat strip. Implement. Dimensions 9" × 2". No. 576; KR II K. Fig. 42, No. 63.
64. Fragment of a tanged knife. Length 2·9". No. 115; KR III C. Fig. 42, No. 64.
65. Headless nail with circular section. Length 5·2". No. 109; KR III C. Fig. 42, No. 65.
66. Implement; chisel with oblong section. Length 5·9". No. 256; KR III E. Fig. 42, No. 66.
- ✓ 67. Sickle with tang of circular section. Length 7". No. 981; KR IV ZE. Fig. 42, No. 67.
68. Similar to above but broken. Length 6·2". No. 204; KR III D. Fig. 42, No. 68.
69. Fragment of a bar, circular in section. Length 2·9". No. 115; KR III C. Fig. 42, No. 59.
70. Bar with circular section. Length 9·5". No. 107; KR III C. Fig. 42, No. 70.
71. Fragment of a sickle with a hole towards the top. Length 6·7". No. 369; KR V J. Fig. 42, No. 71.
72. Tanged knife or dagger. Length 7·3". No. 106; KR III C. Fig. 42, No. 72.
73. Implement. Indeterminate use. Length 7·2". No. 989; KR IV ZE. Fig. 42, No. 73.
74. Fragment of a chisel. Length 3·1". No. 8; KR VII II. Fig. 43, No. 74.
75. Small axe. KR III N. Fig. 43, No. 75.
76. Chisel with oblong section. Length 7". No. 1903; KR IV XE<sup>3</sup>. Fig. 43, No. 76.
77. Razor with a tang. Length 8·5". KR IV ZE<sup>3</sup>. Fig. 43, No. 77.
- ✓ 78. Fragment of a sickle with tang of rectangular section. Length 8·3". No. 1118; KR II R. Fig. 43, No. 78.
79. Dagger with a tang. Length 10". No. 1186; KR II S. Fig. 53, No. 79.
80. Chisel. Length 4·5". No. 1713; KR IV XE. Fig. 43, No. 80.
- ✓ 81. Axe. Length 5·5". KR IV XE<sup>3</sup>. Fig. 43, No. 81.
82. Small tanged knife or dagger. Length 4·8". No. 7; KR VII I. Fig. 43, No. 82.



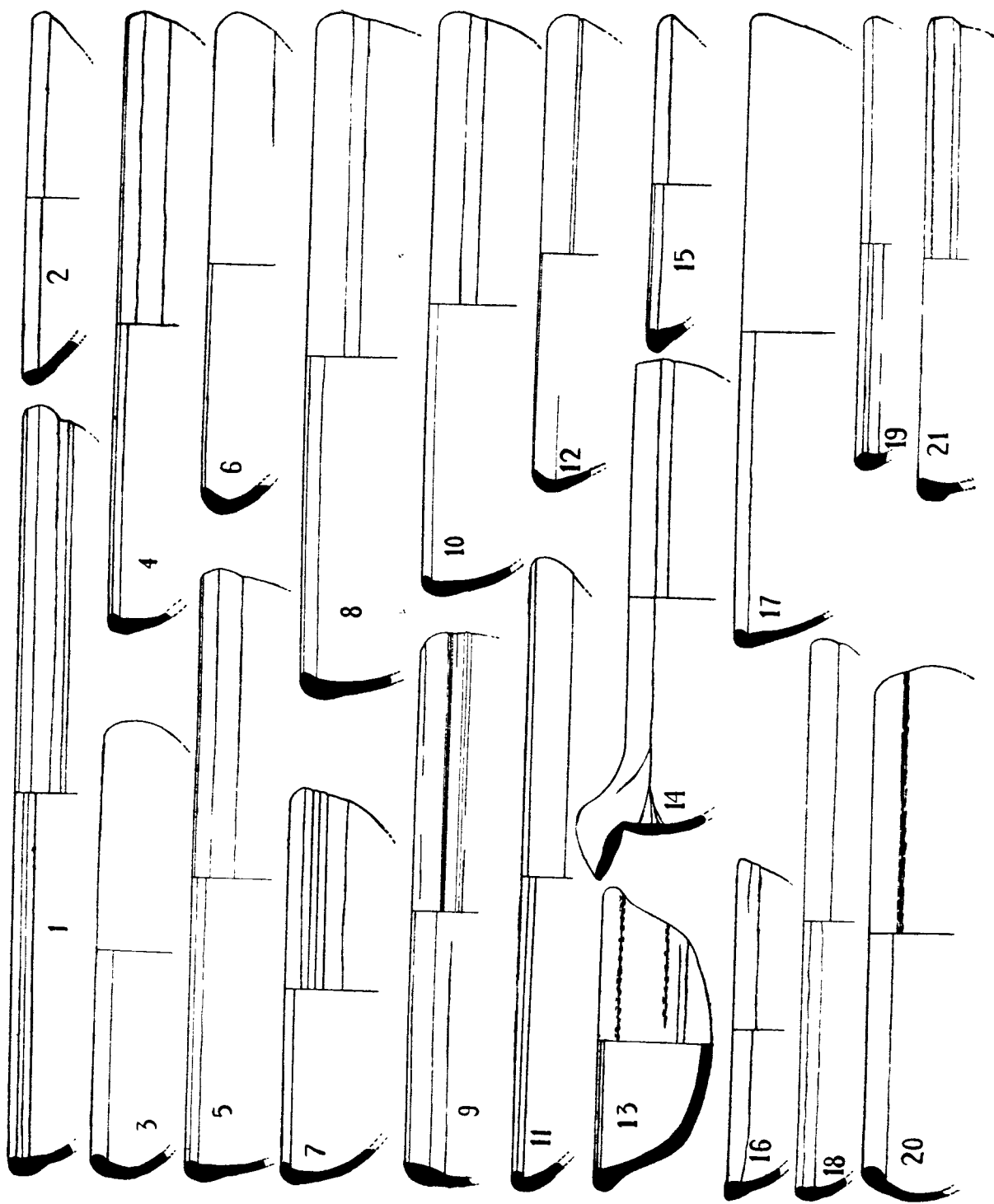


FIG. 20. Scale  $\frac{1}{4}$ .



Fig. 21. Scale  $\frac{1}{4}$ .

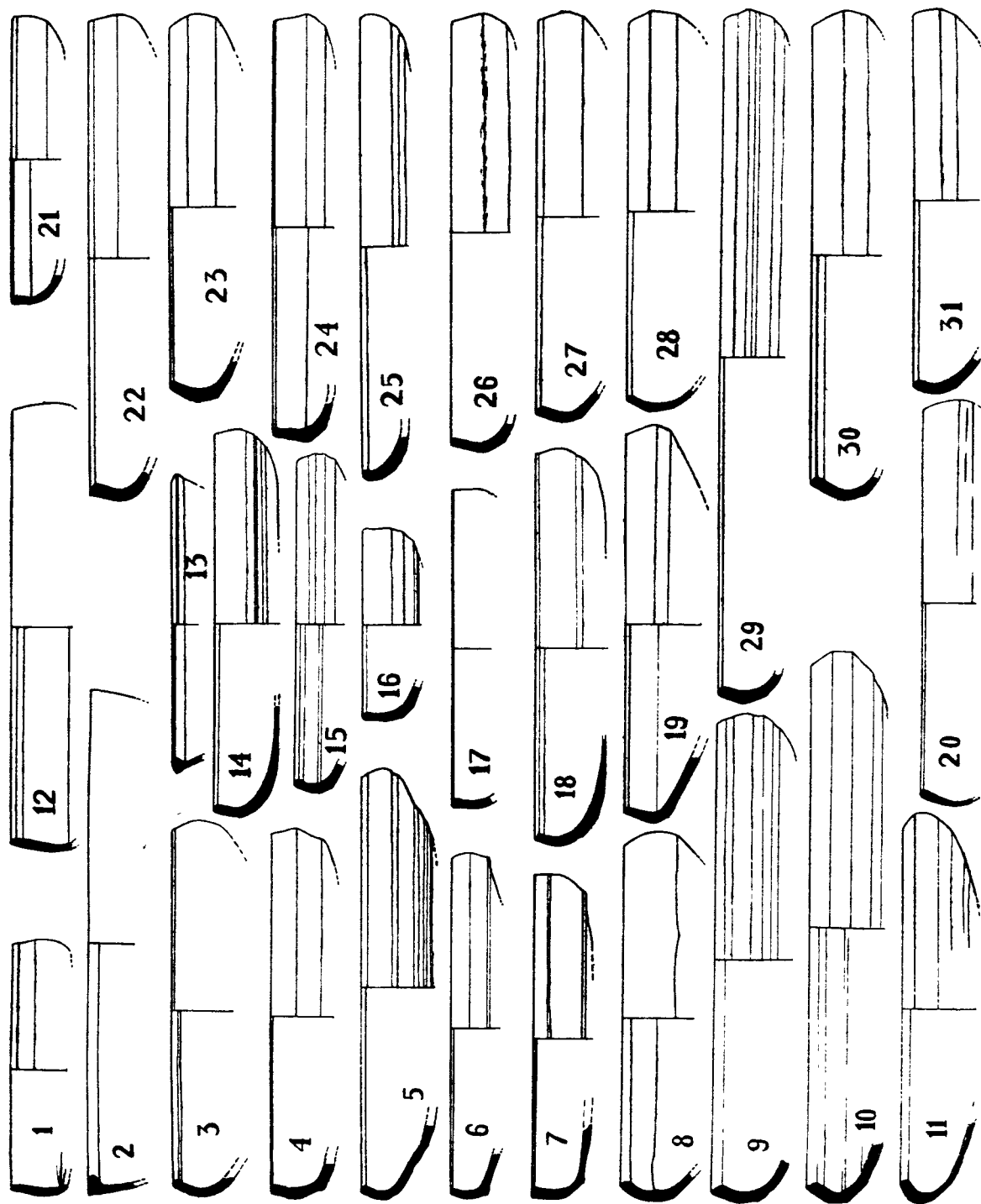


FIG. 22. Scale  $\frac{1}{4}$ .

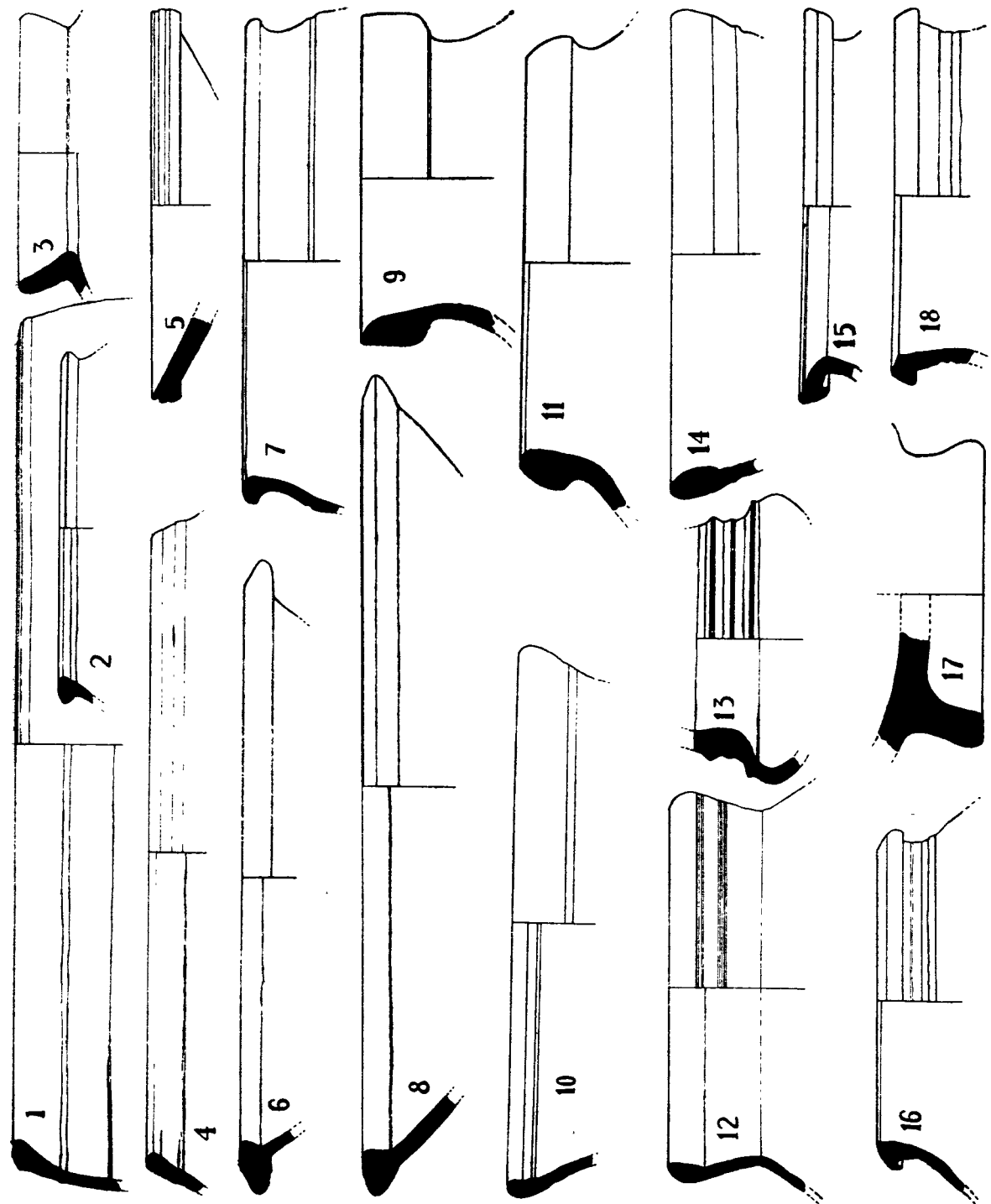


FIG. 23. Scale  $\frac{1}{4}$ .

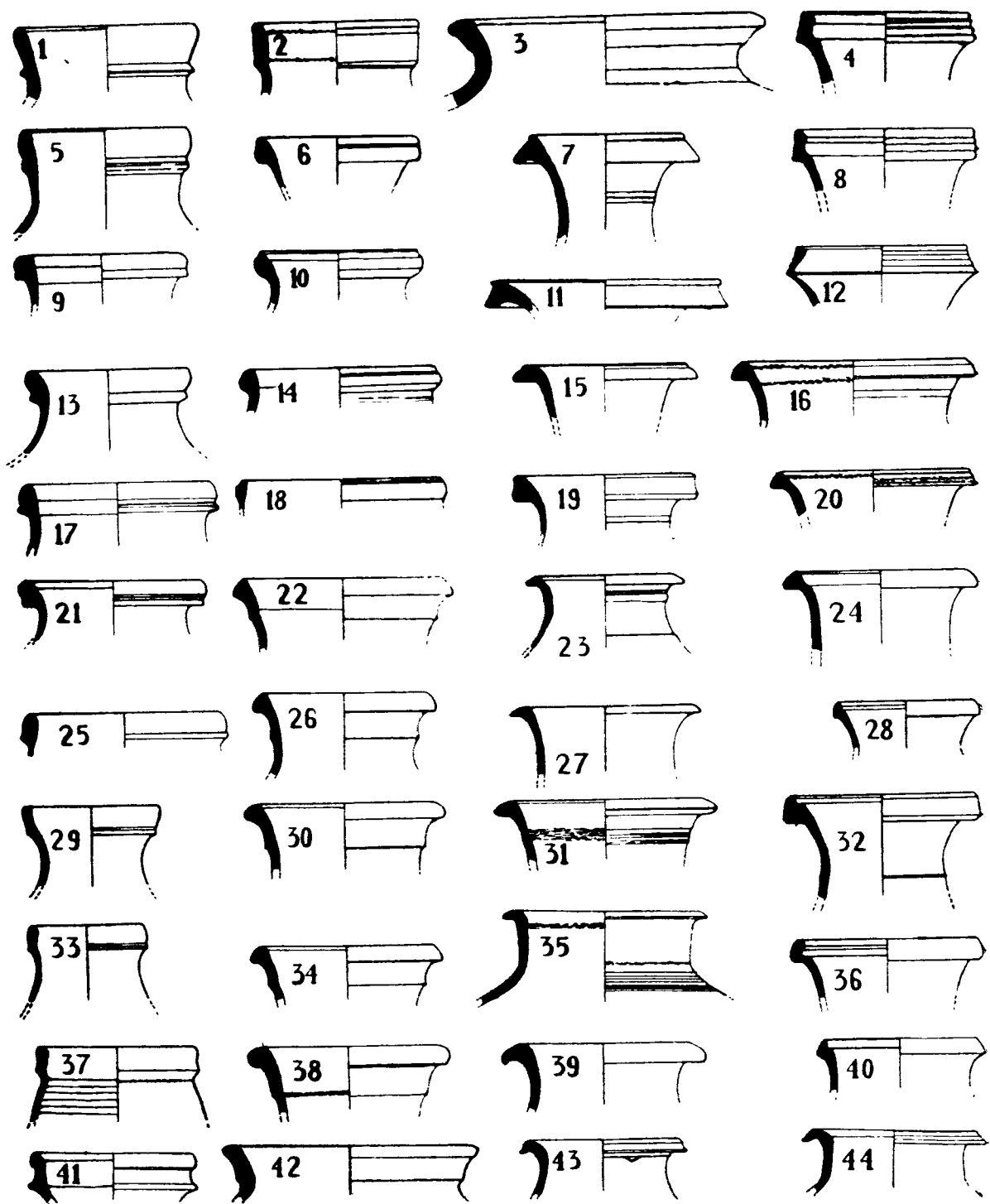


FIG. 24. Scale  $\frac{1}{4}$ .

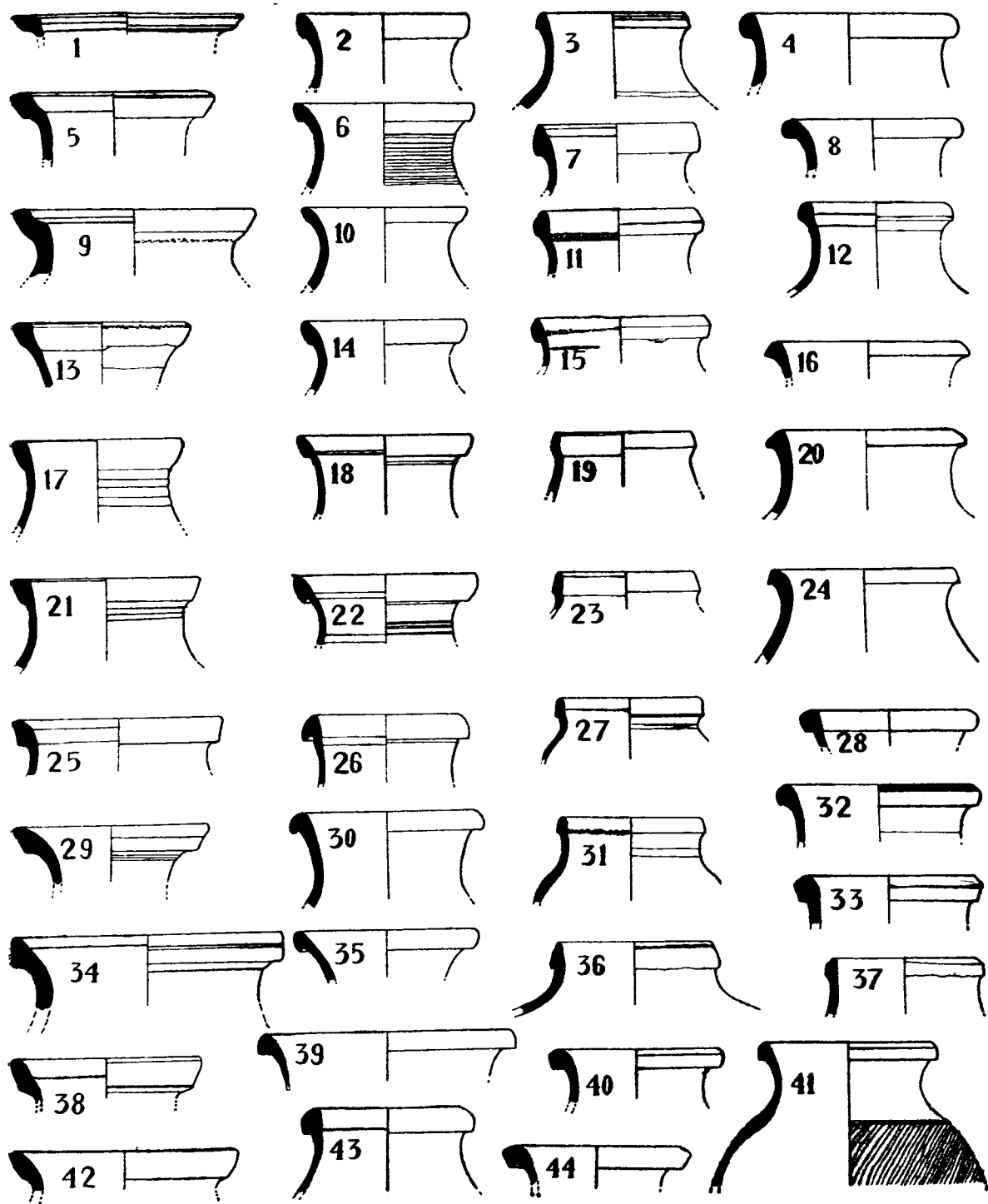


FIG. 25. Scale  $\frac{1}{4}$ .



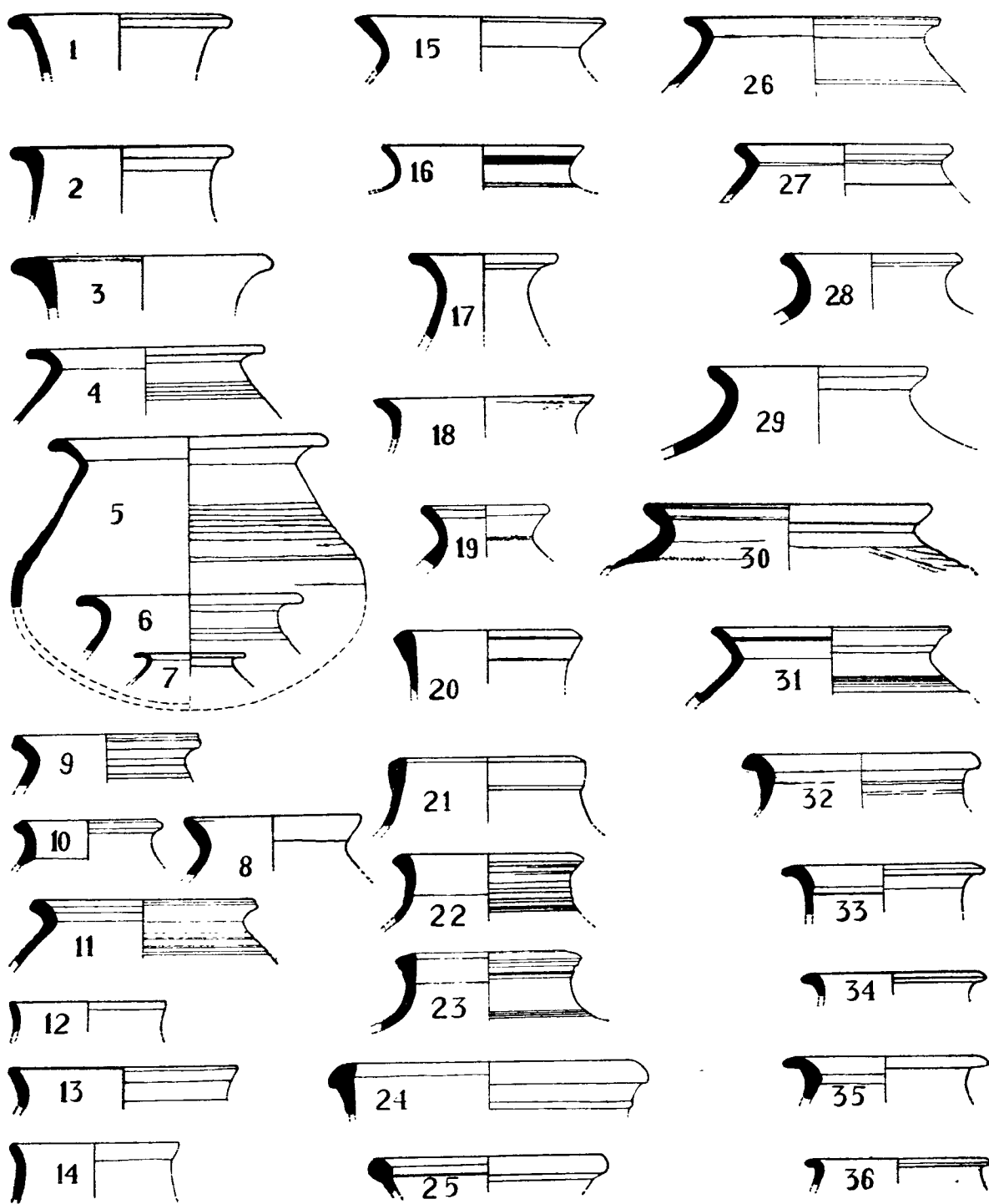


FIG. 26. Scale  $\frac{1}{4}$ .

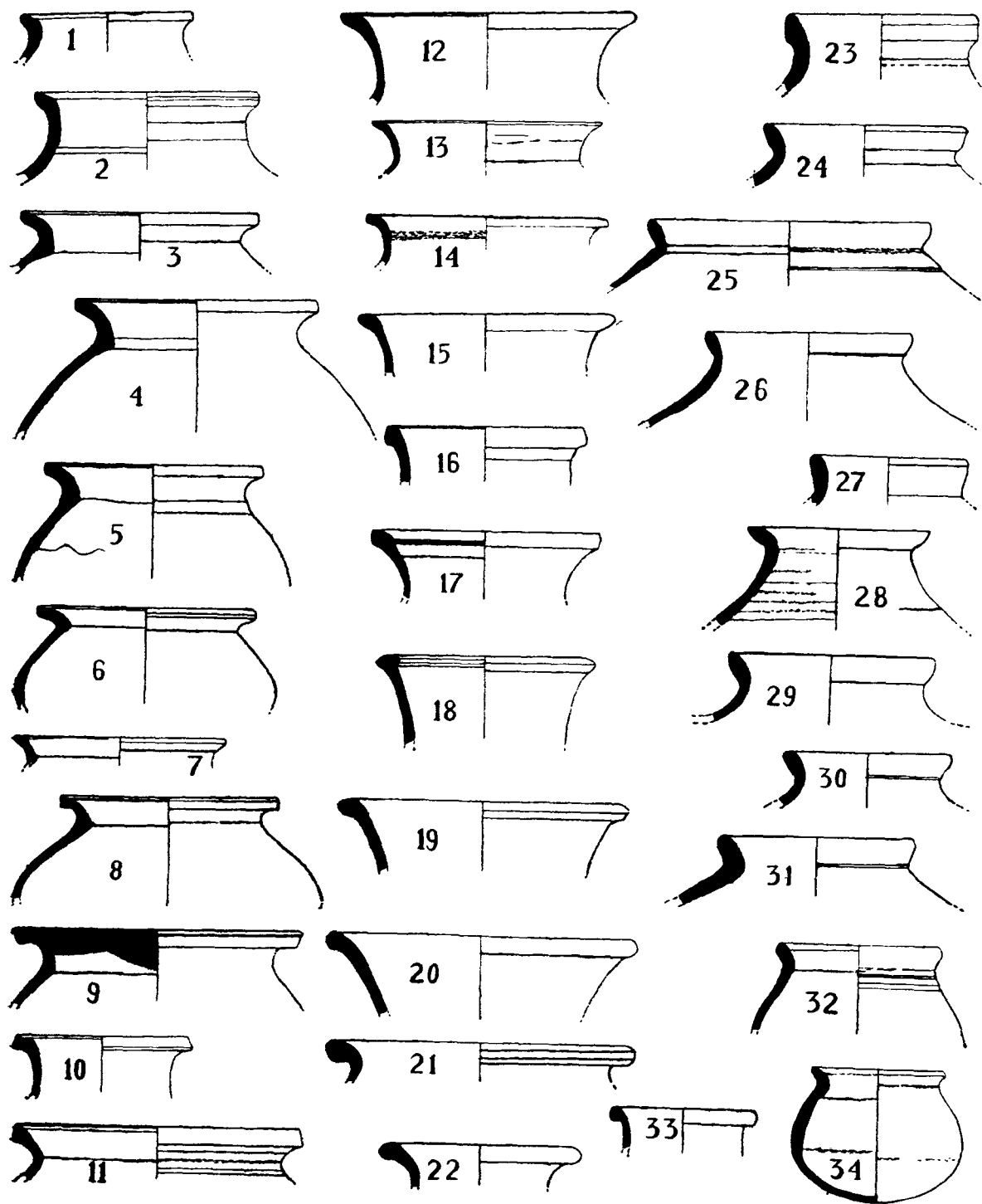


FIG. 27. Scale  $\frac{1}{4}$ .

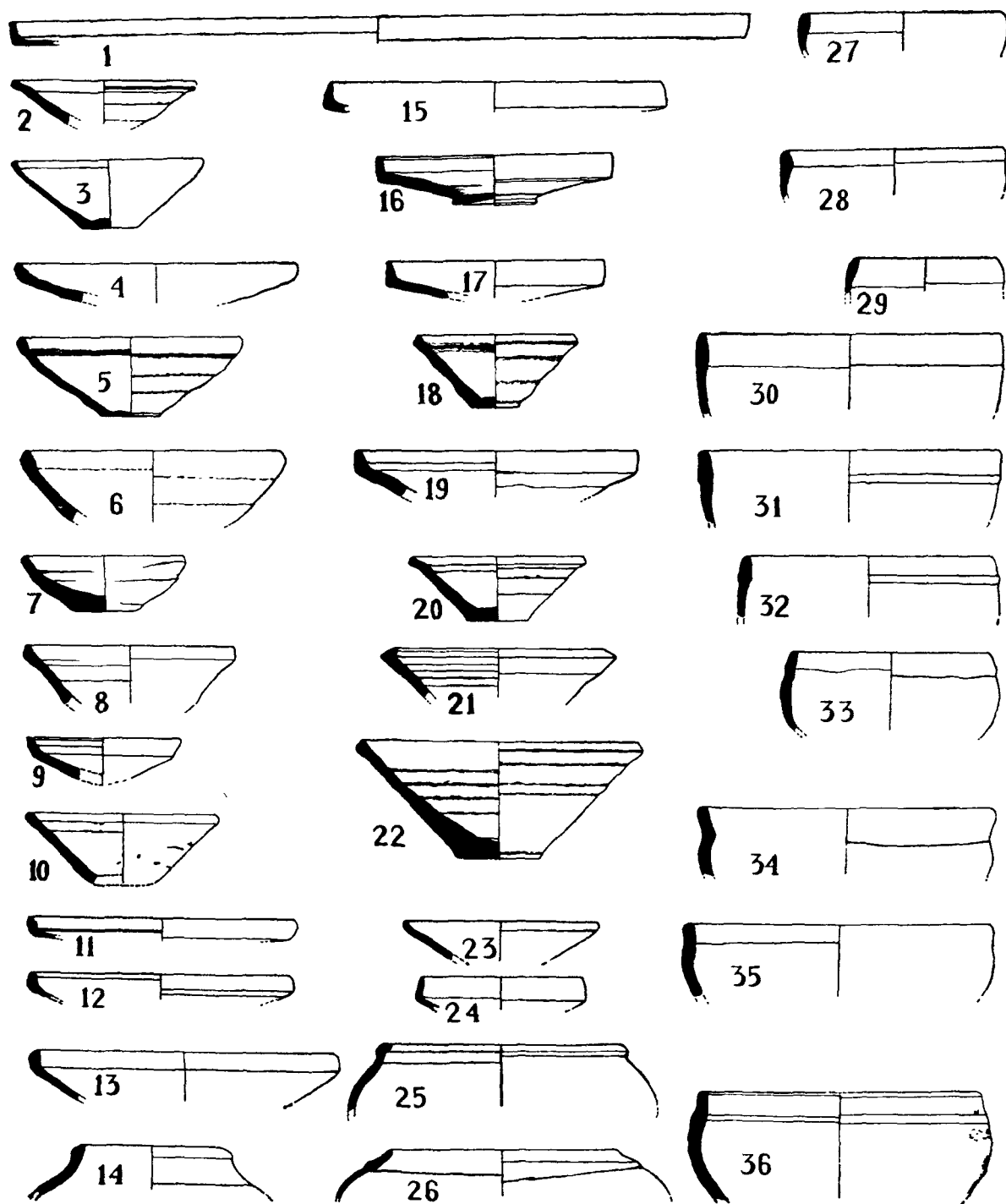


FIG. 28. Scale  $\frac{1}{4}$ .

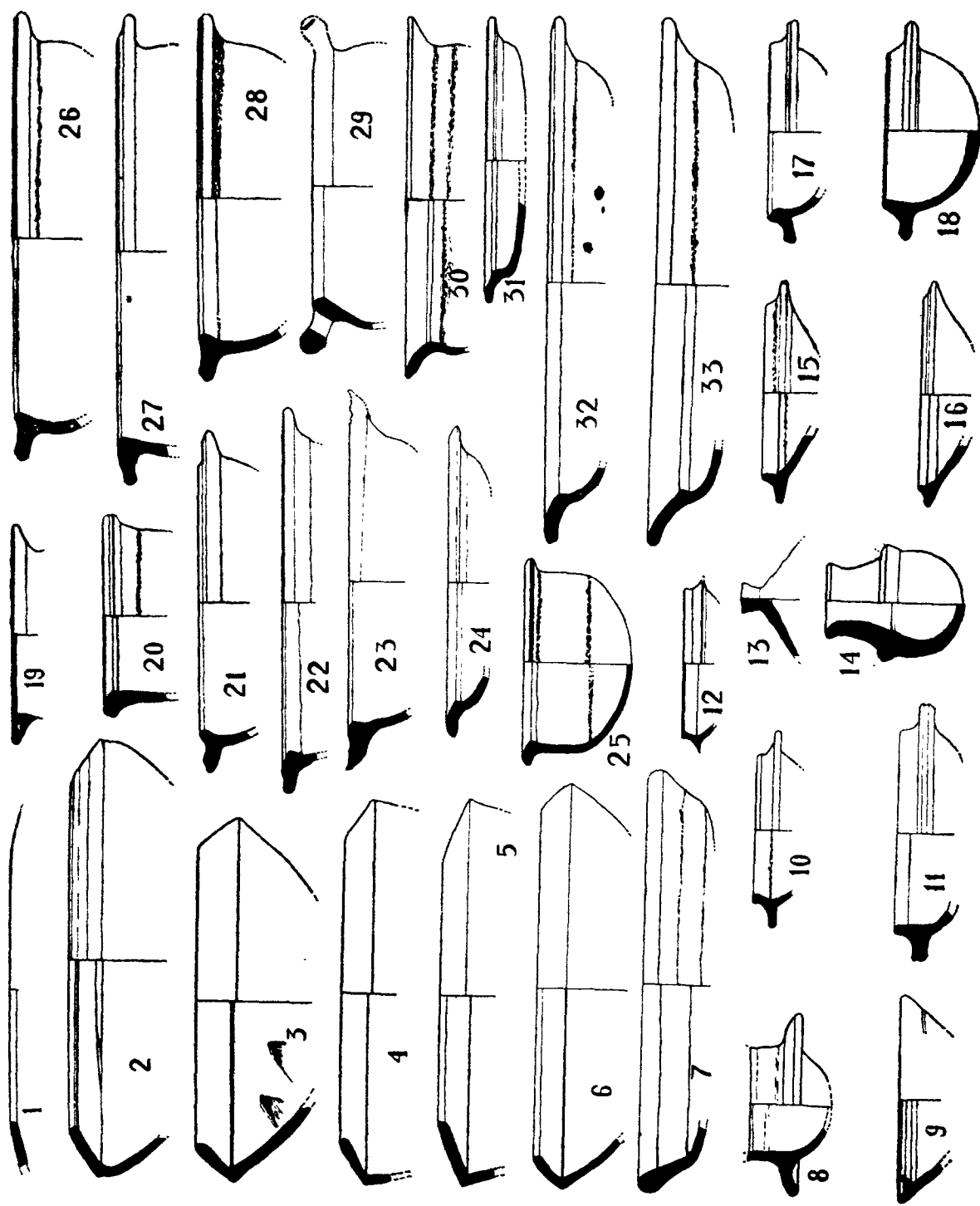


FIG. 29. Scale  $\frac{1}{4}$ .

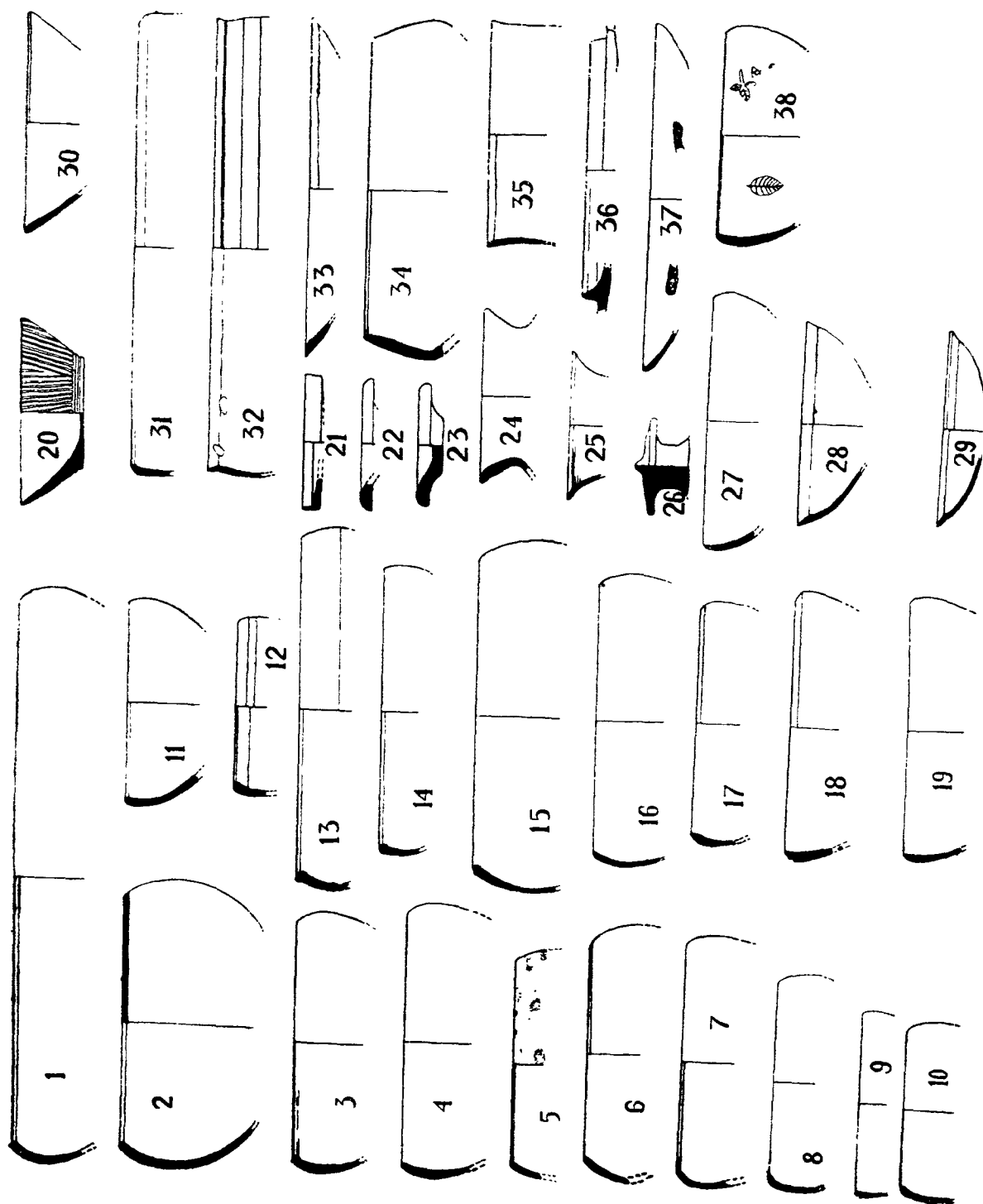


FIG. 30. Scale  $\frac{1}{4}$ .

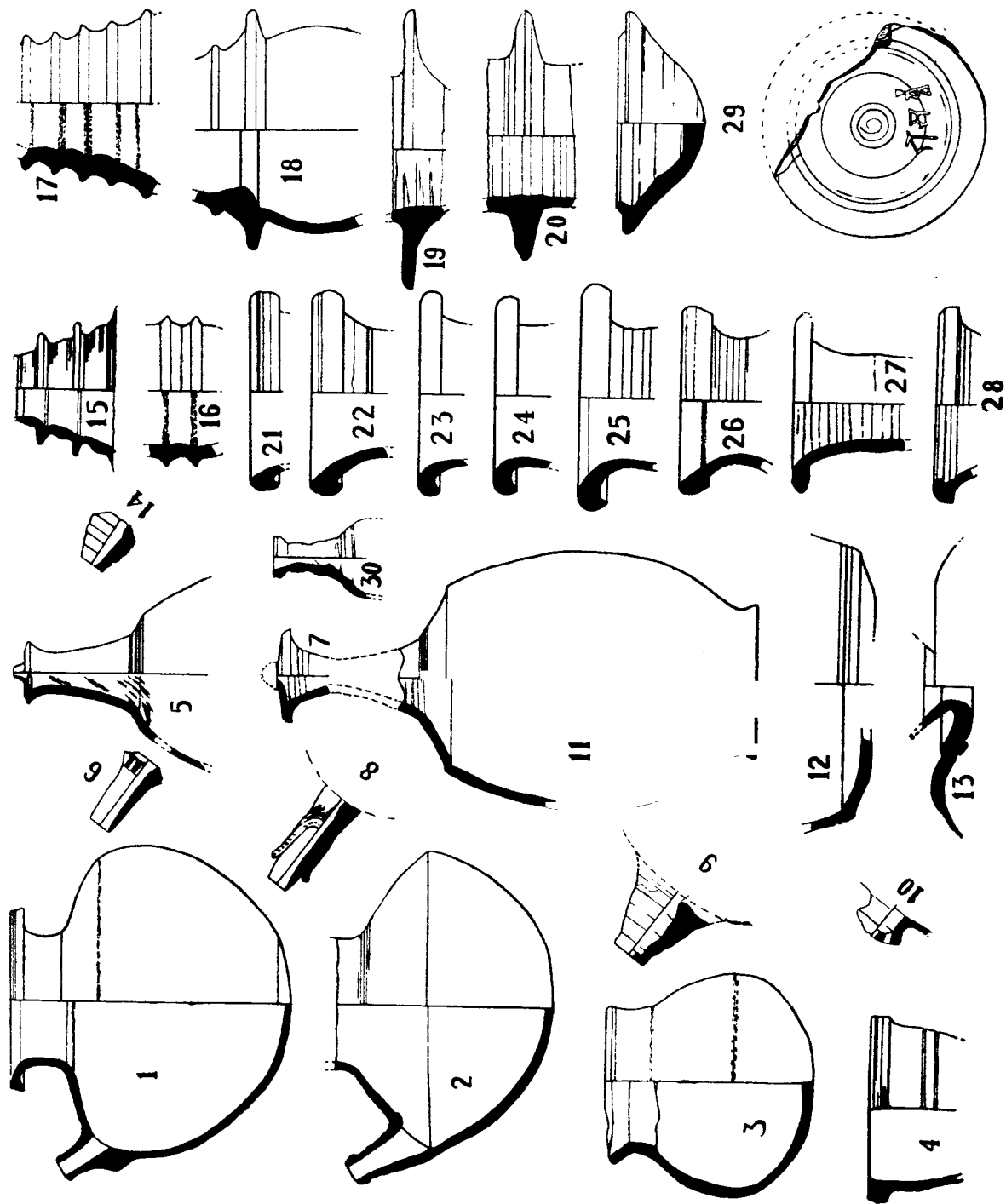


FIG. 31. Scale  $\frac{1}{4}$ .

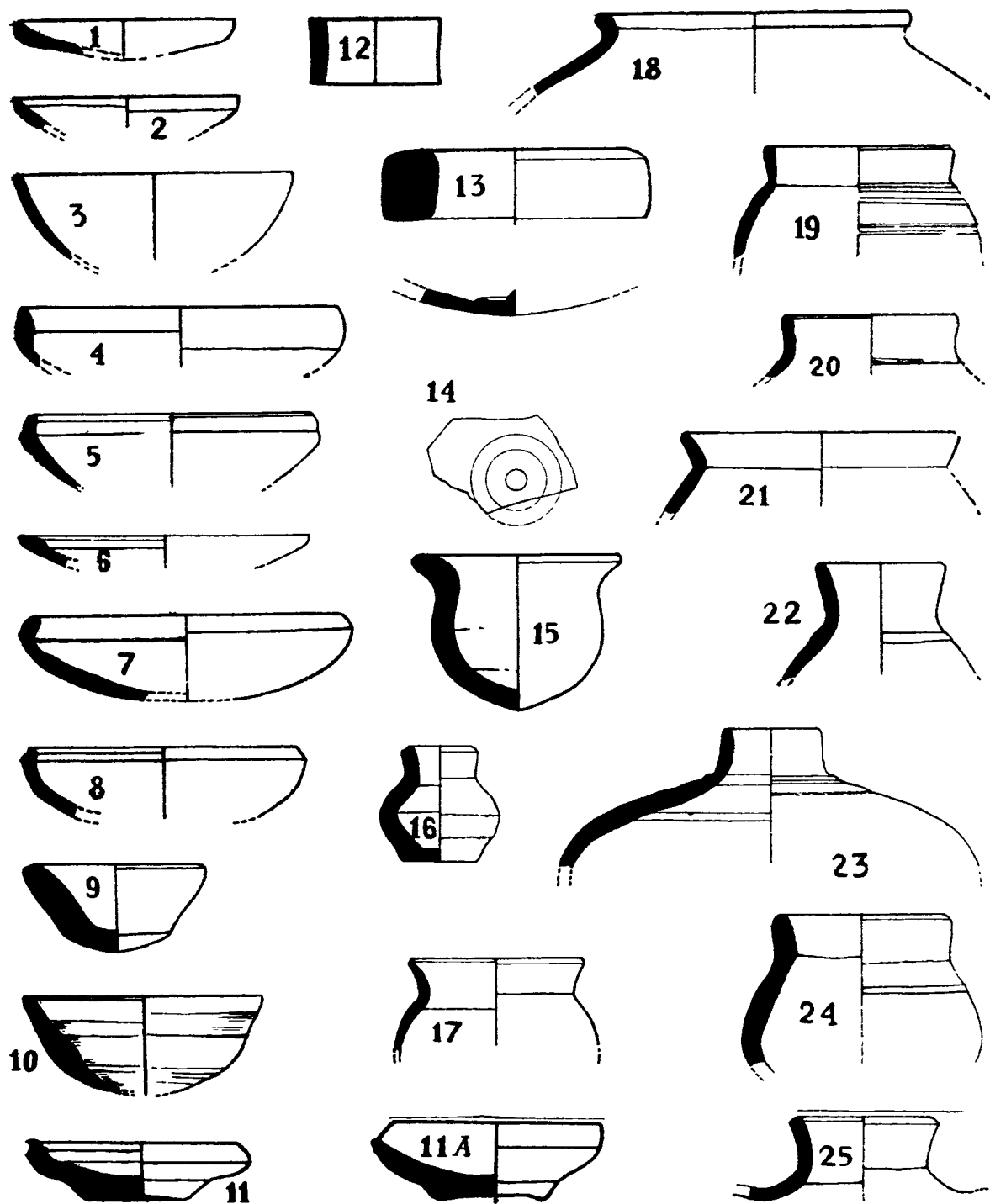


FIG. 32. Scale  $\frac{1}{2}$ .

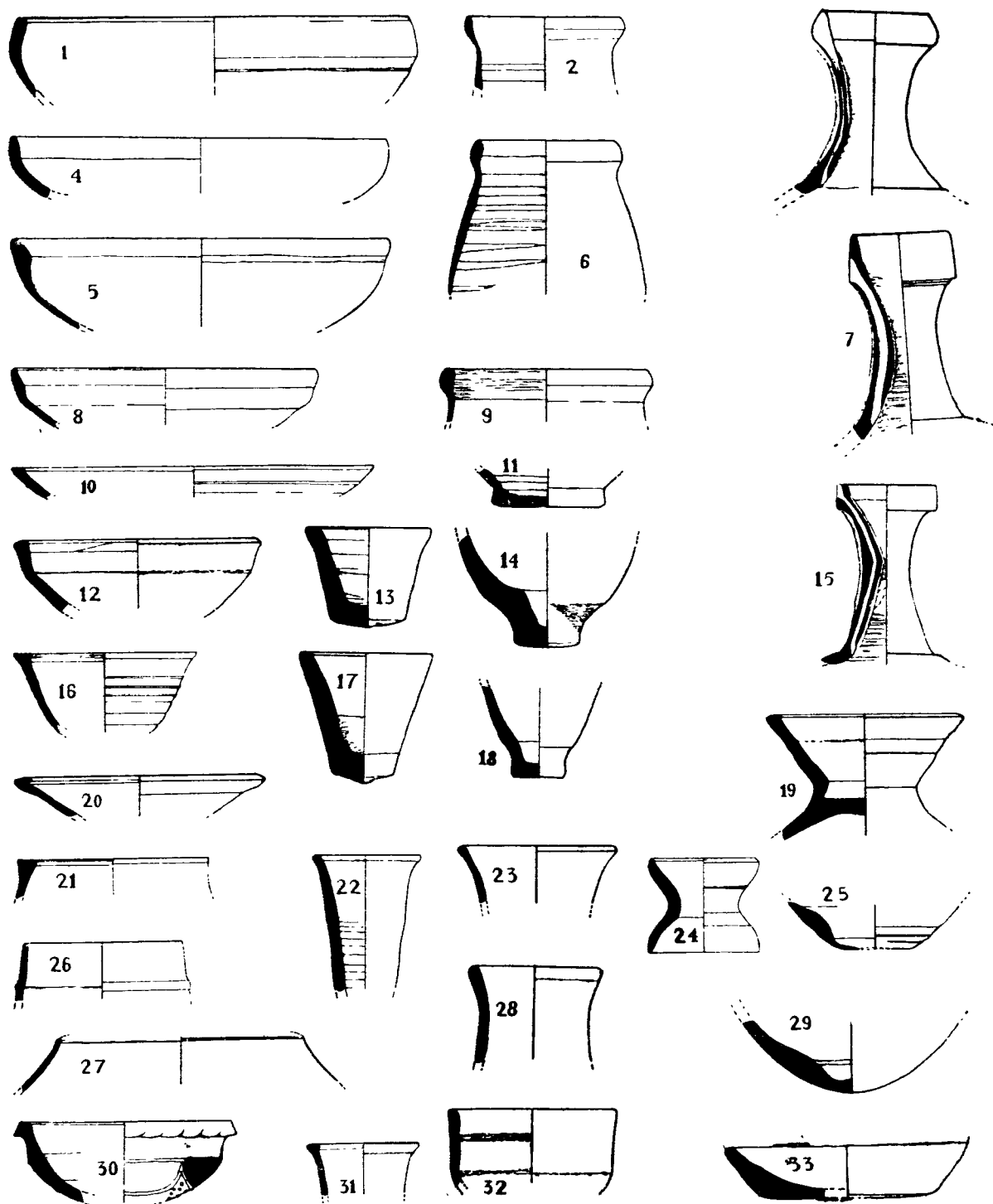


FIG. 33. Scale  $\frac{1}{2}$ .

( No. 19 is upside down. )



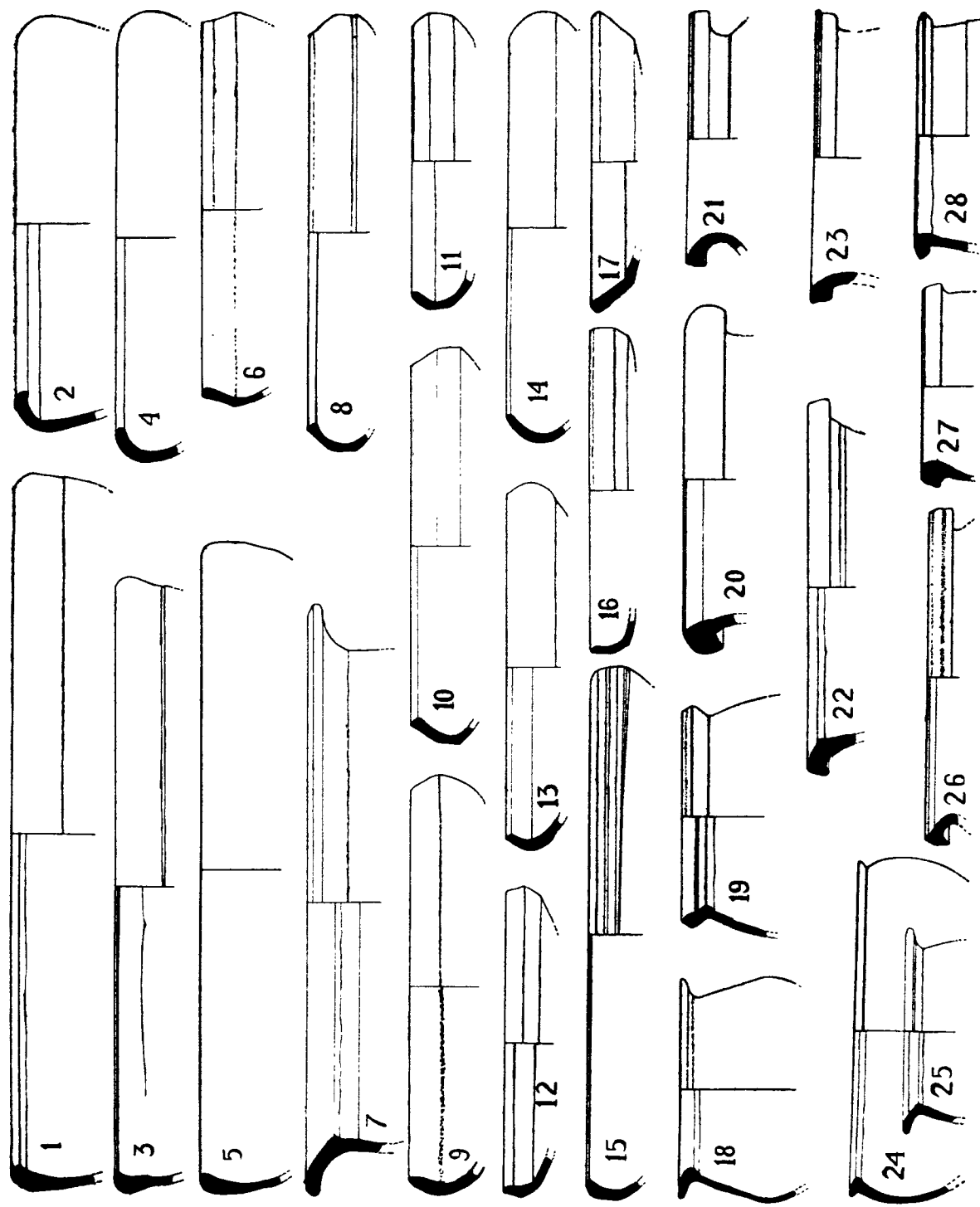


FIG. 34. Scale  $\frac{1}{4}$ .

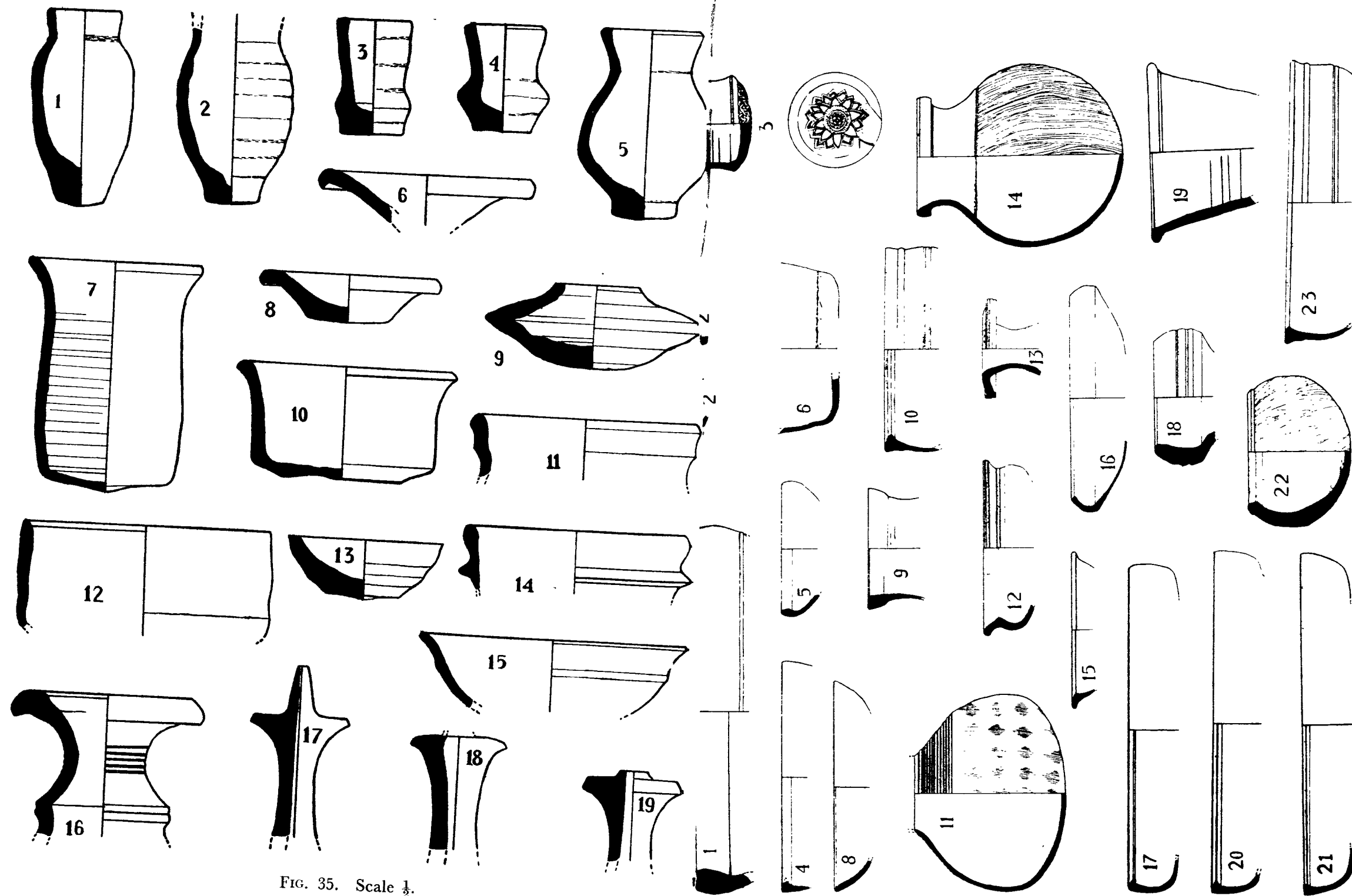


FIG. 35. Scale  $\frac{1}{2}$ .

FIG. 36. Scale  $\frac{1}{4}$ .

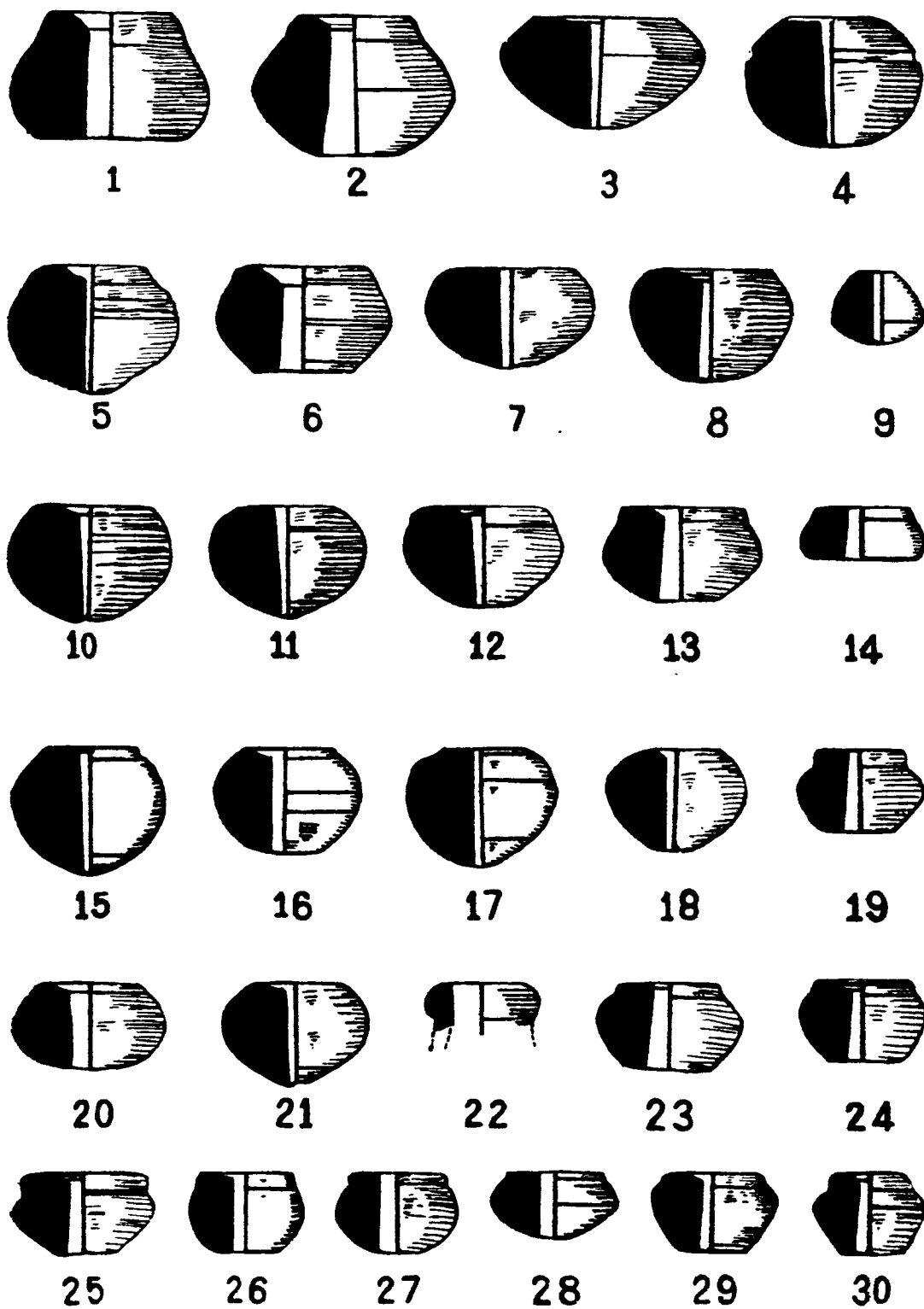


FIG. 37. Scale  $\frac{1}{4}$ .

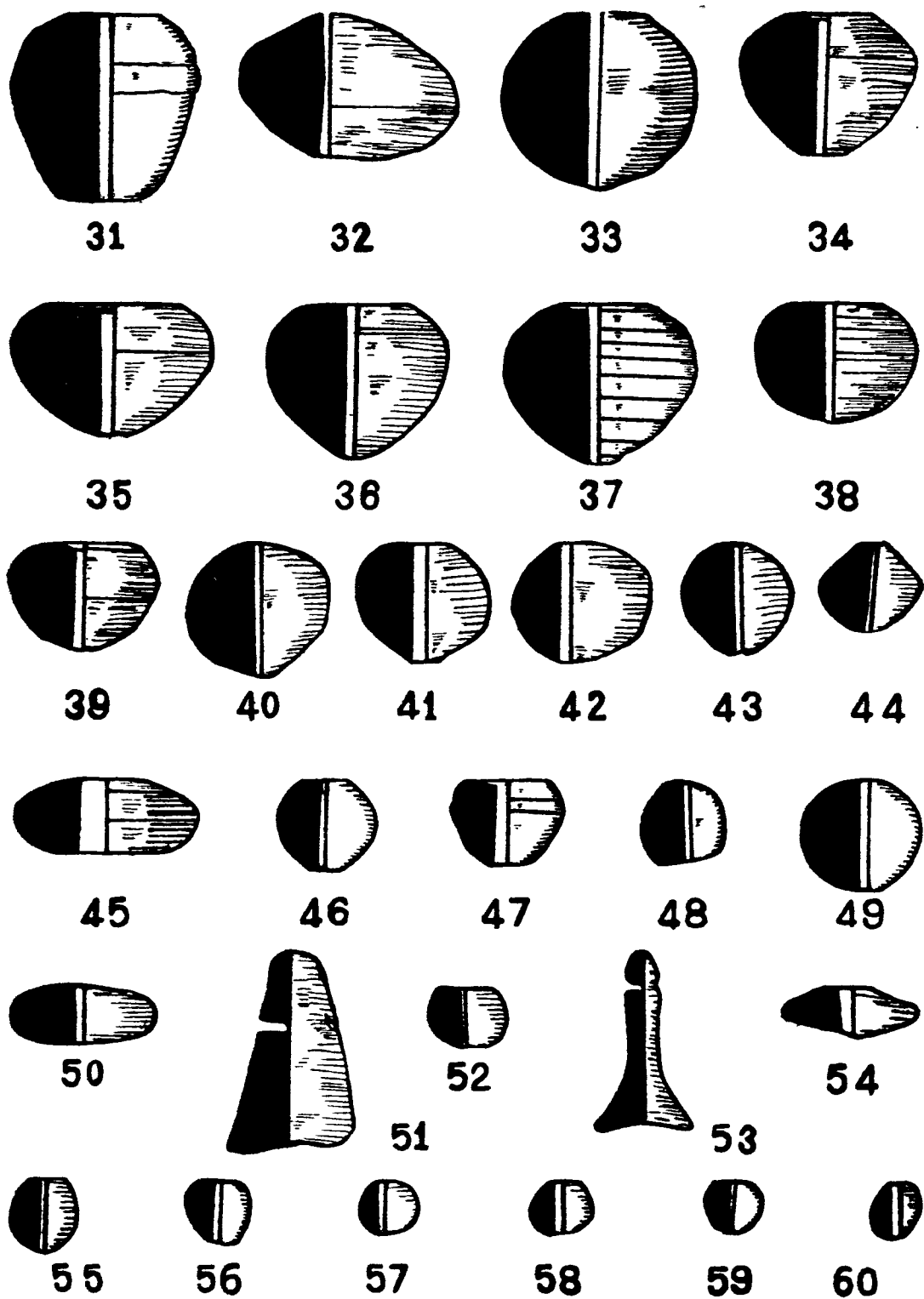


FIG. 38. Scale  $\frac{1}{1}$ .

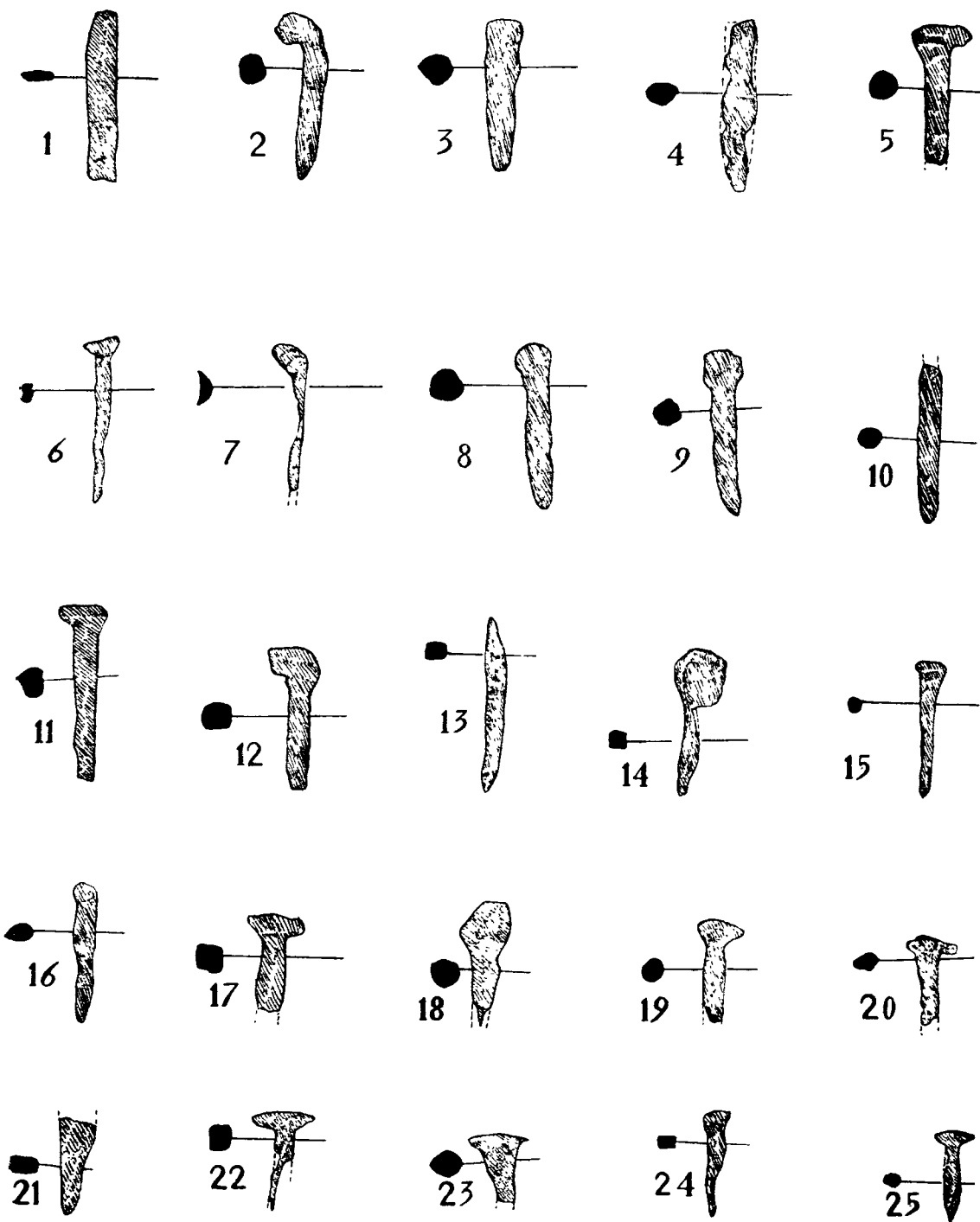


FIG. 39. Scale  $\frac{1}{2}$ .

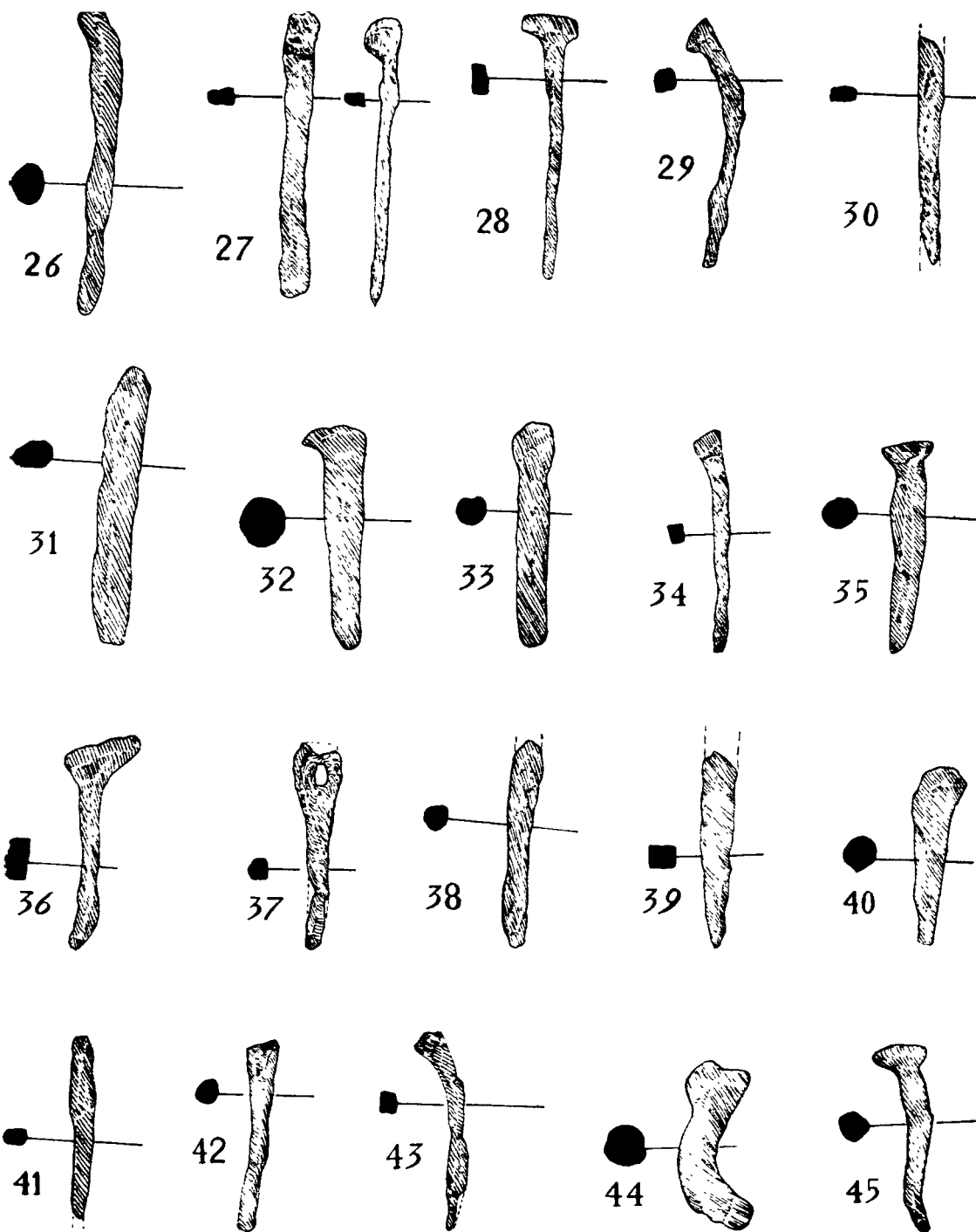


FIG. 40. Scale  $\frac{1}{2}$ .

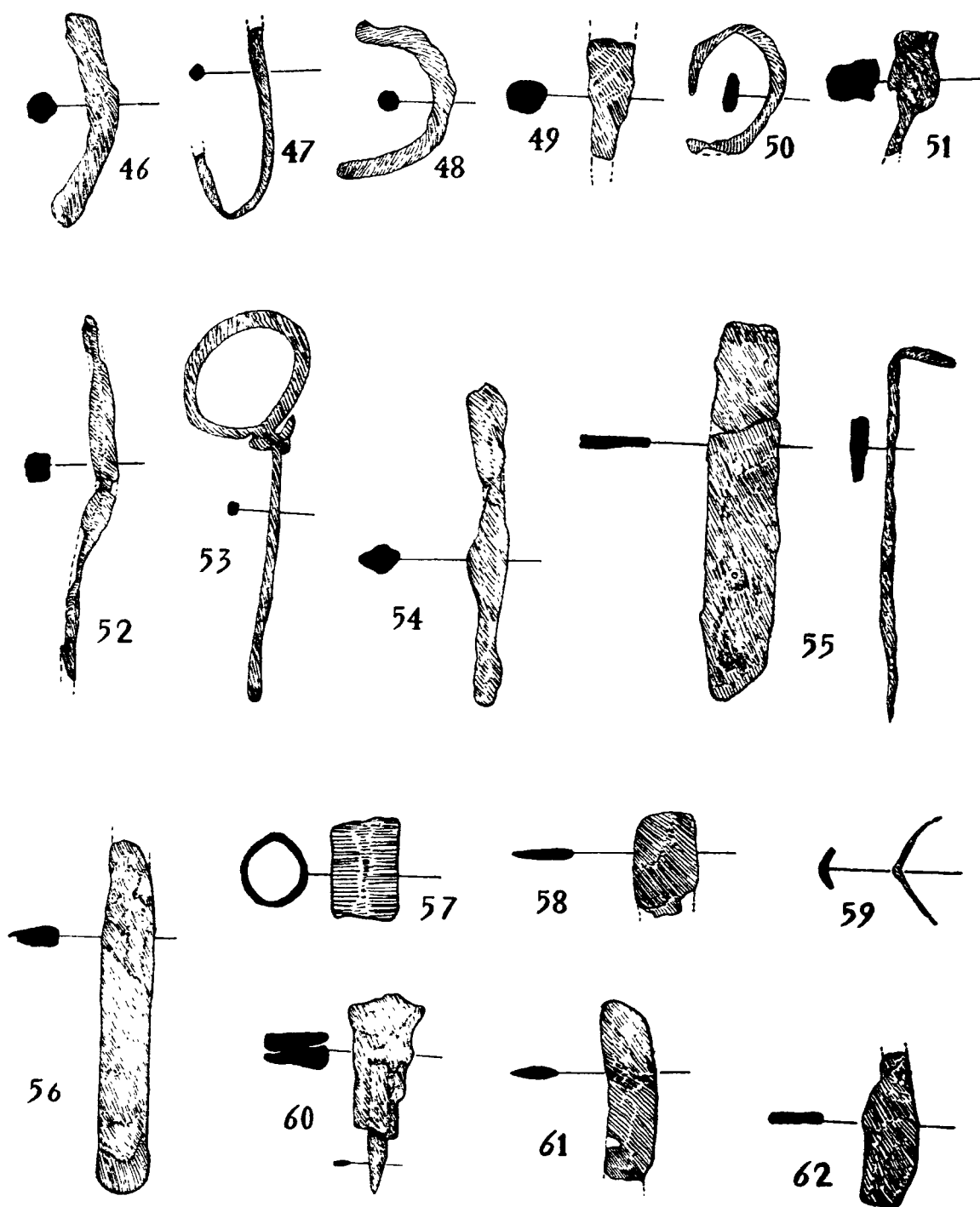


FIG. 41. Scale  $\frac{1}{2}$ .

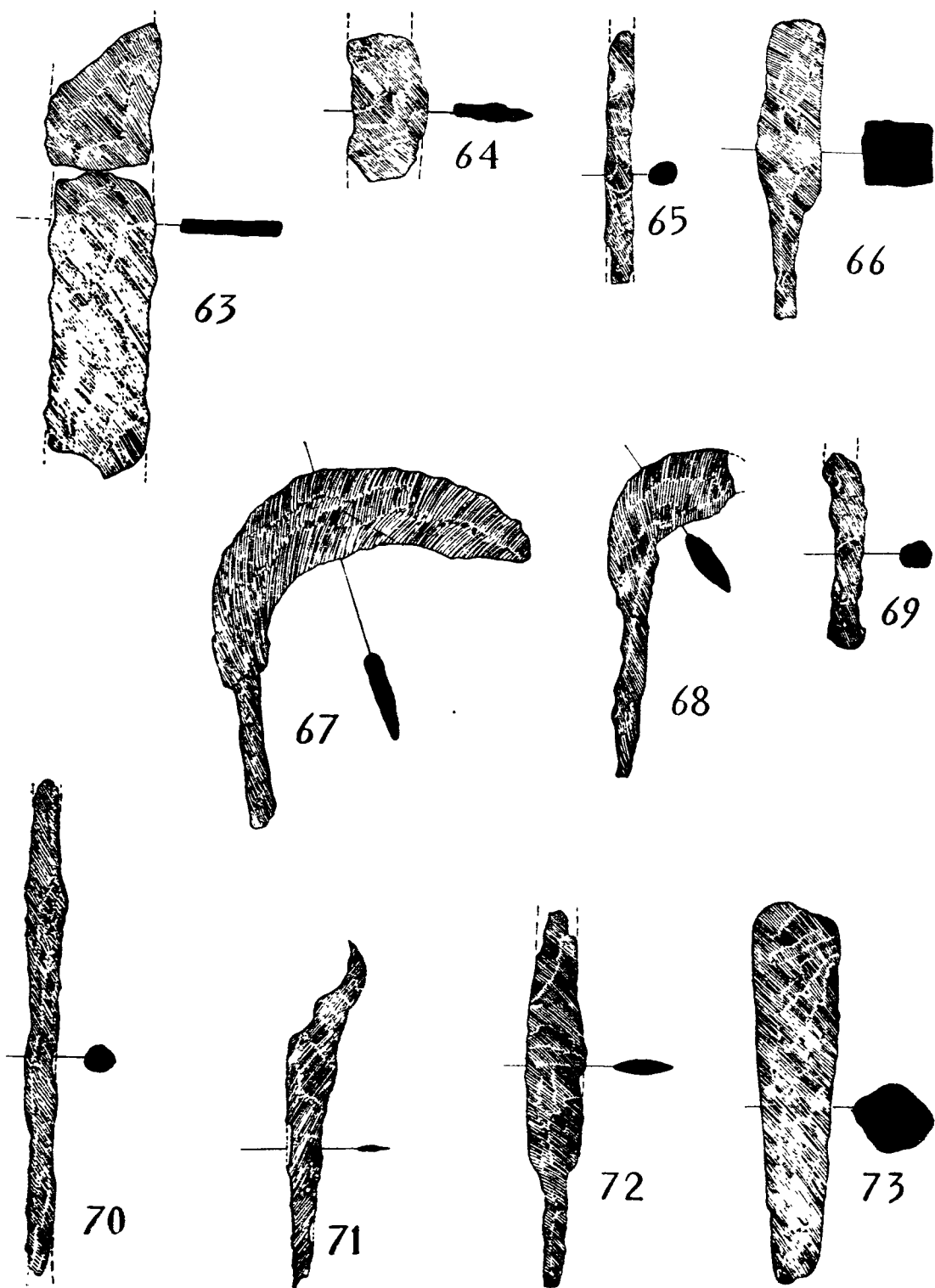


FIG. 42. Scale  $\frac{1}{3}$ .



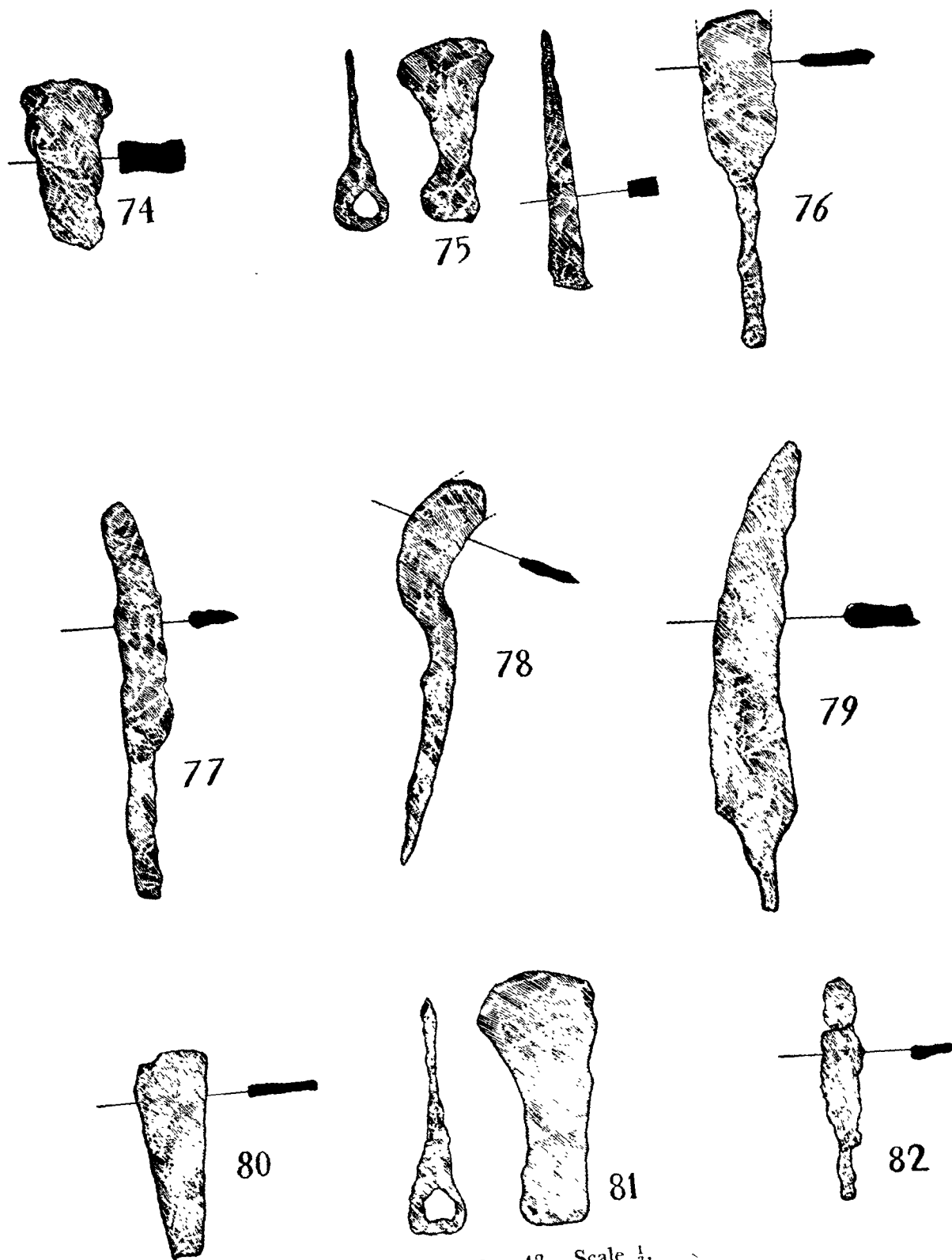


FIG. 43. Scale  $\frac{1}{3}$ .



*General view of the excavations at KR IV. See p. 21*

PLATE II

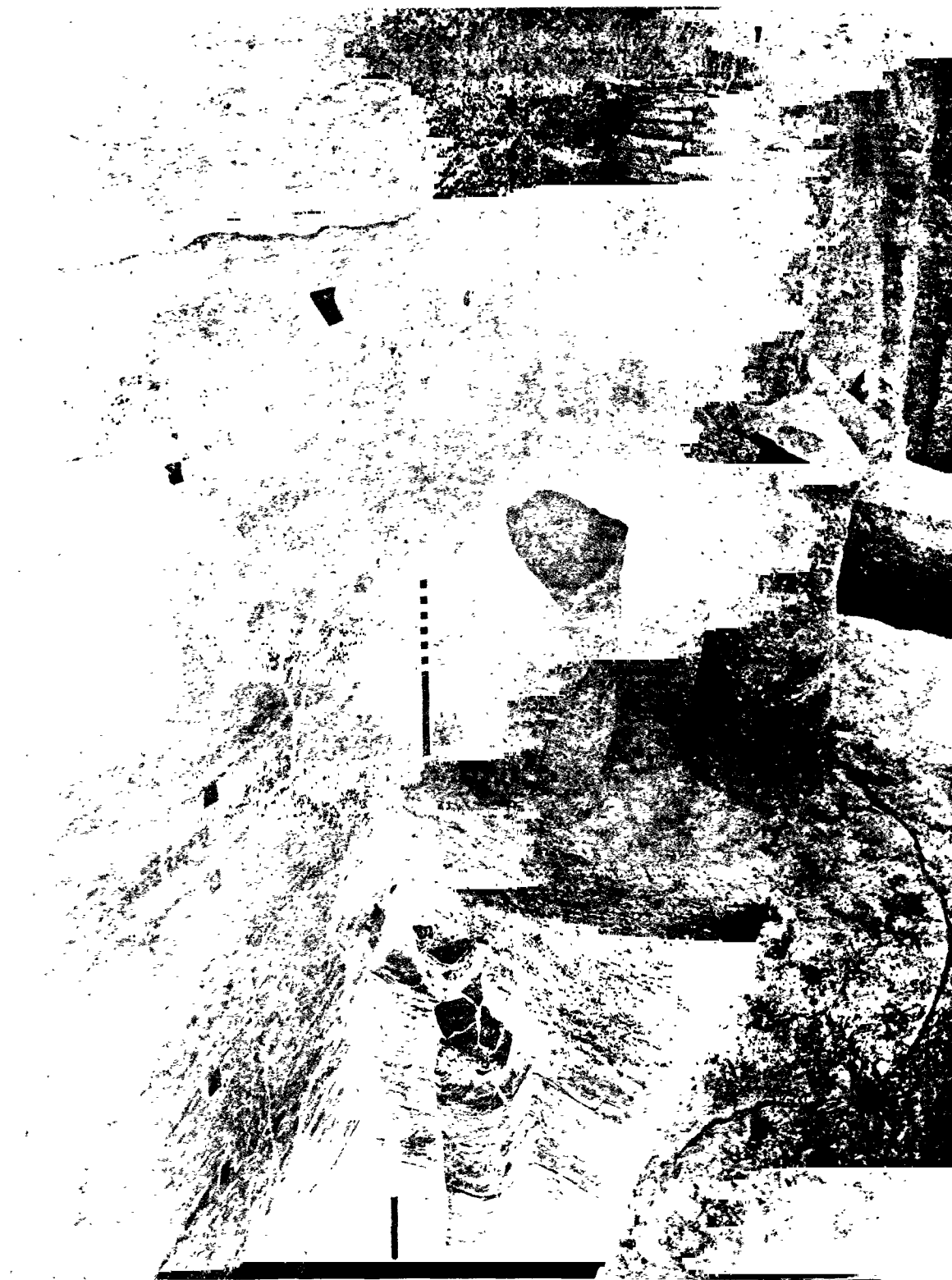


*The tomb trench before excavations, looking south. See p. 26*

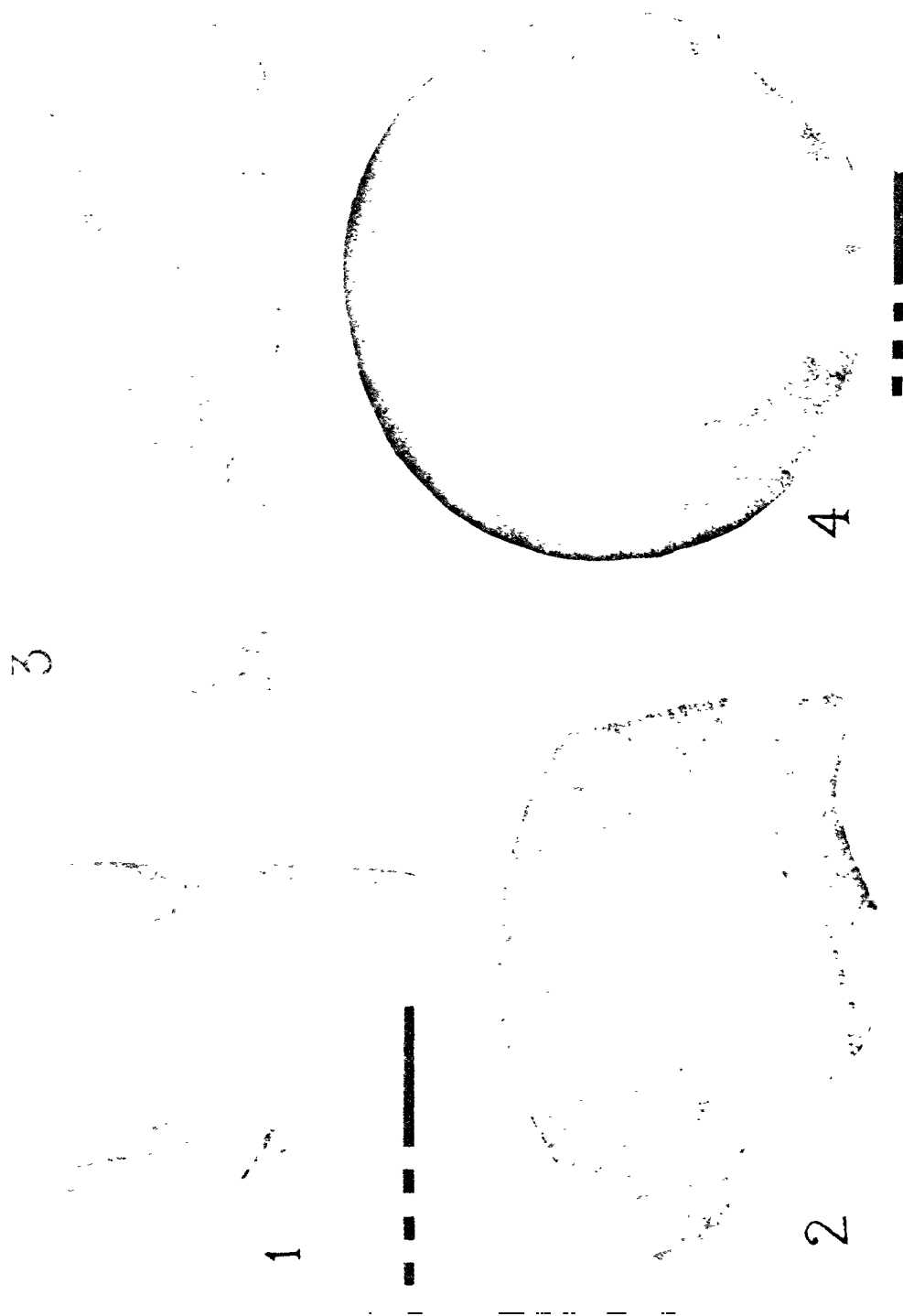


*Cuttings in KR Area, A, B and C, looking west and tomb trench, looking south. See pp. 28, 33-4.*

PLATE IV



*Tomb Trench. Ash-pit Y shown both on Plan and in section, looking south-west. See p. 26*



*Base (4) and Tops (1-3) of Mauryan Pillars. See p. 17*

PLATE VI



*The largest fragment of a Mauryan Pillar excavated by Dr. Spooner. See p. 17*



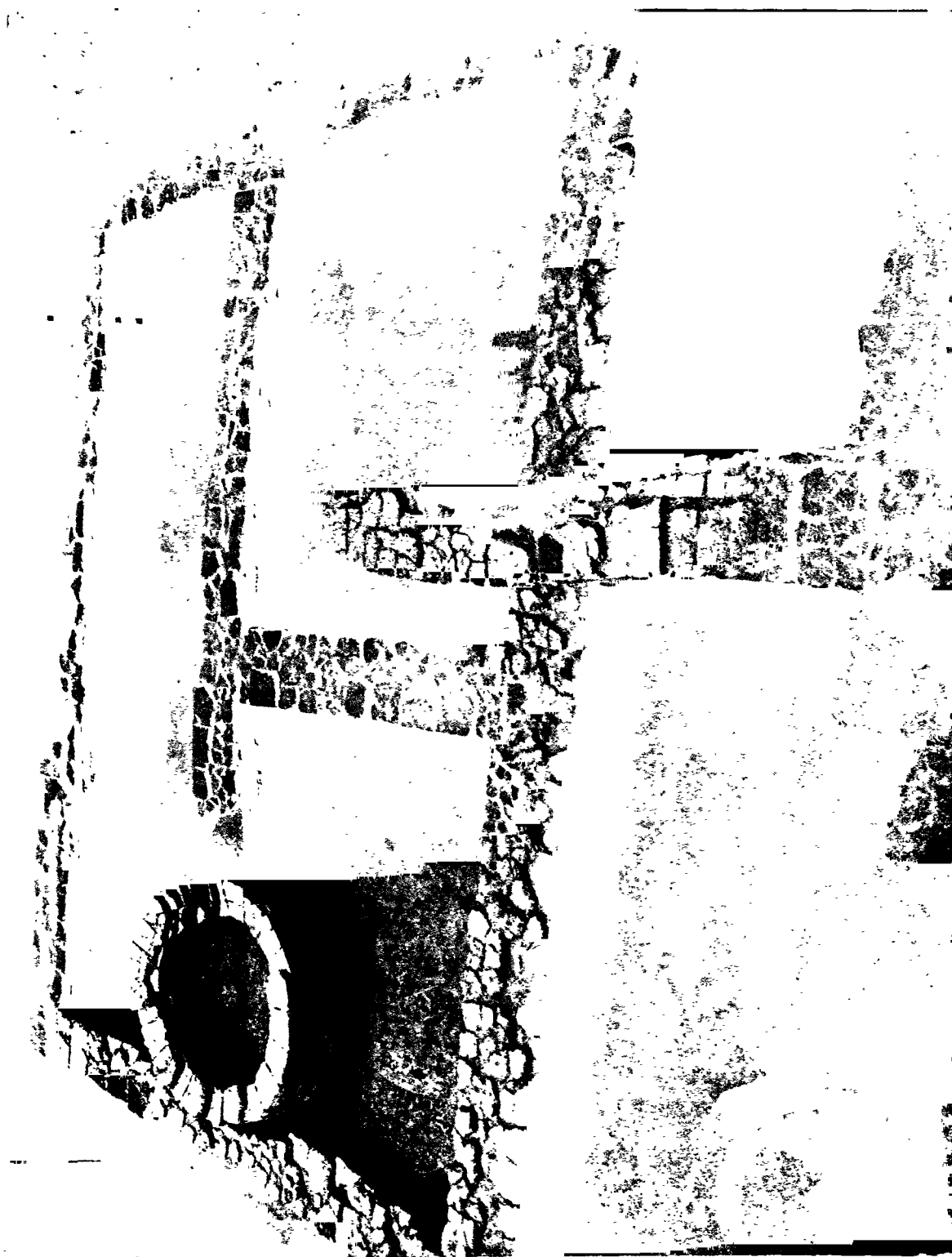
*The wooden base for a Mauryan Pillar in Trench TF, Tomb Area. See p. 32*



PLATE VIII

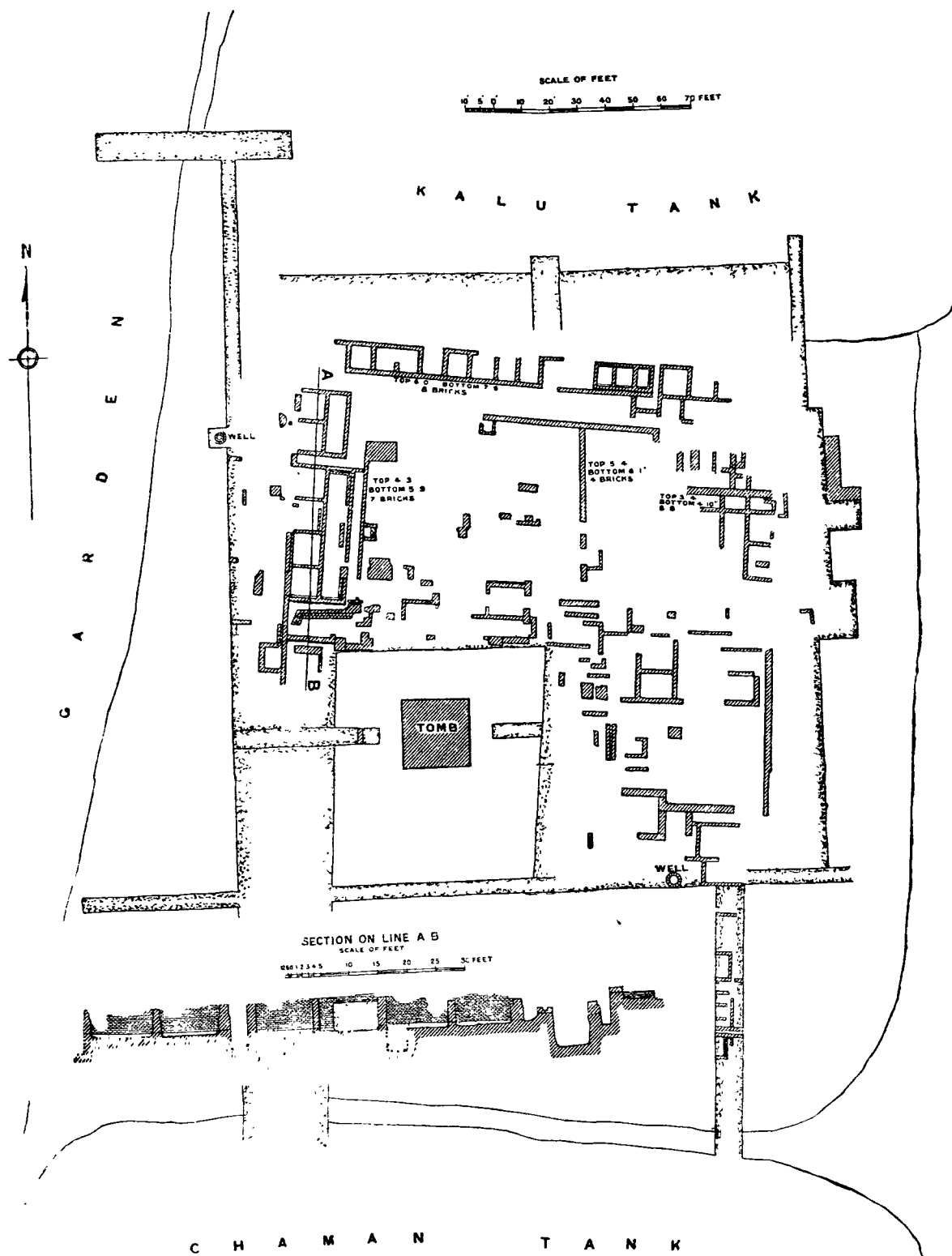


*Wooden base of a Mauryan Pillar excavated by Dr. Spooner. See p. 33*



*Tomb Area: Two Rooms and a Verandah of Period II; a wall of Period III, and a well of Period IV. See p. 30*

# PLATE X



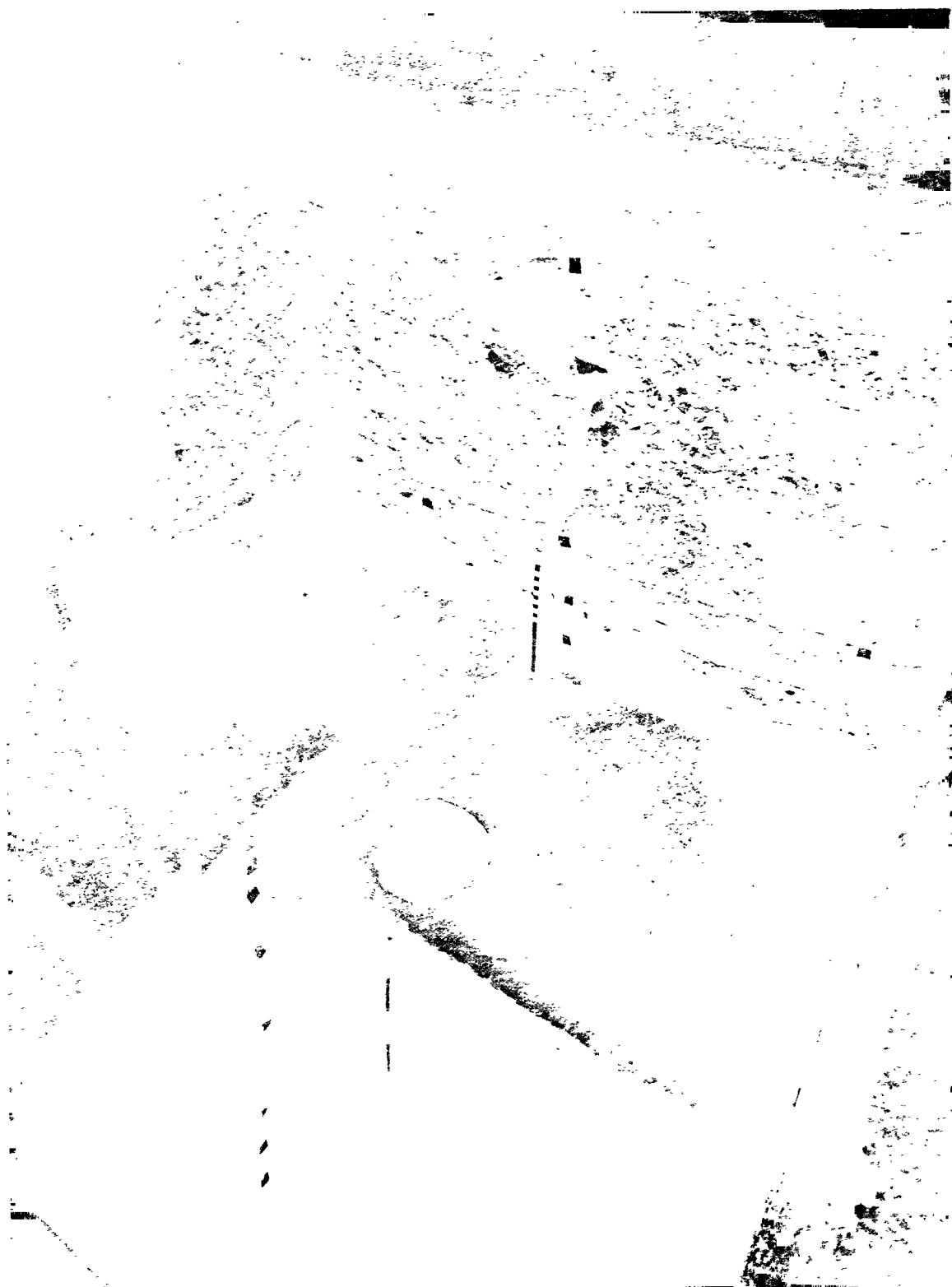
*Plan of the so-called Gupta Period Structures above the Mauryan Pillared Hall excavated by Dr. Spooner in 1912-3. See p. 22*

*Courtesy: Dept. of Archaeology.*

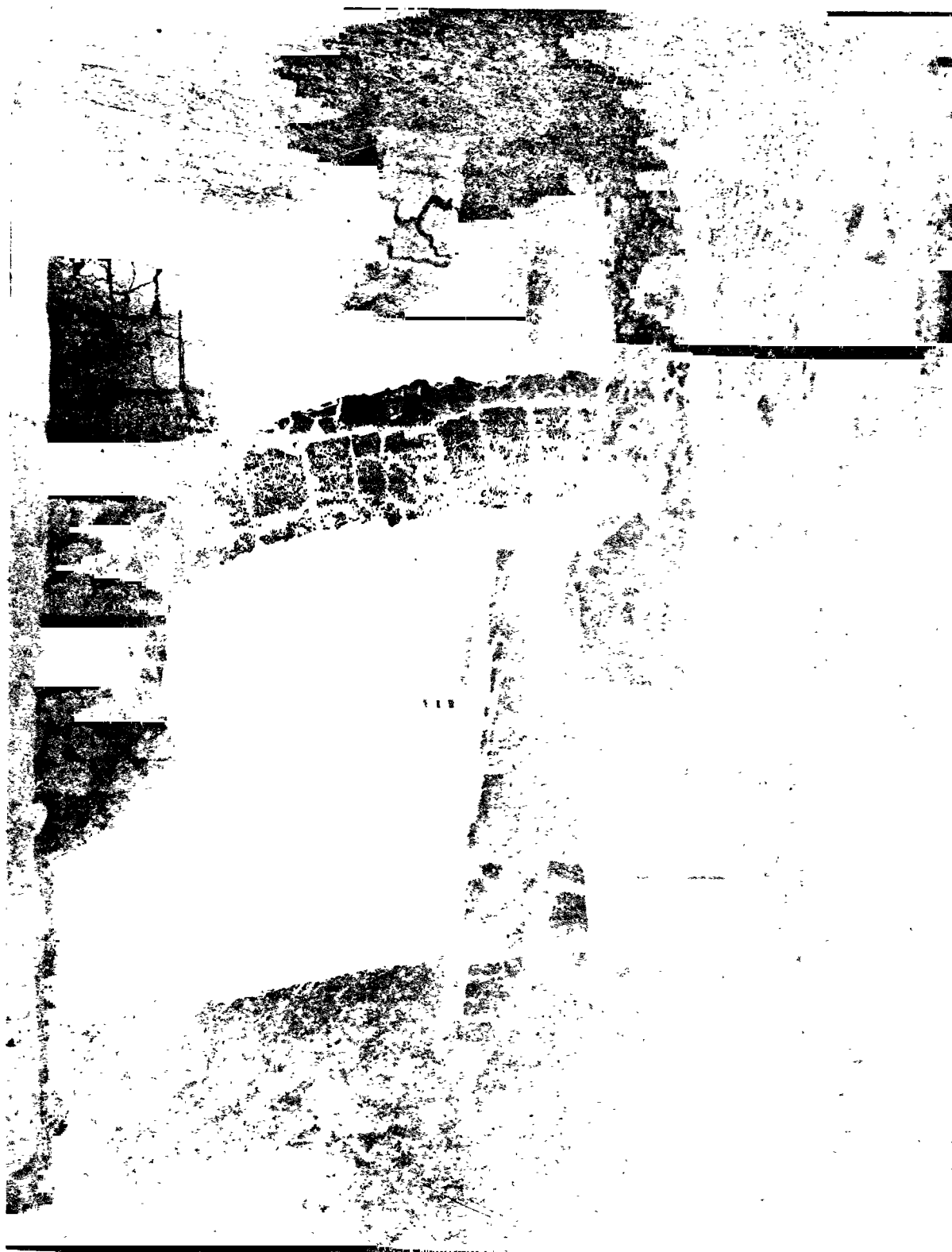


*Stone Capital Base, Mauryan period. See p. 139*

PLATE XII

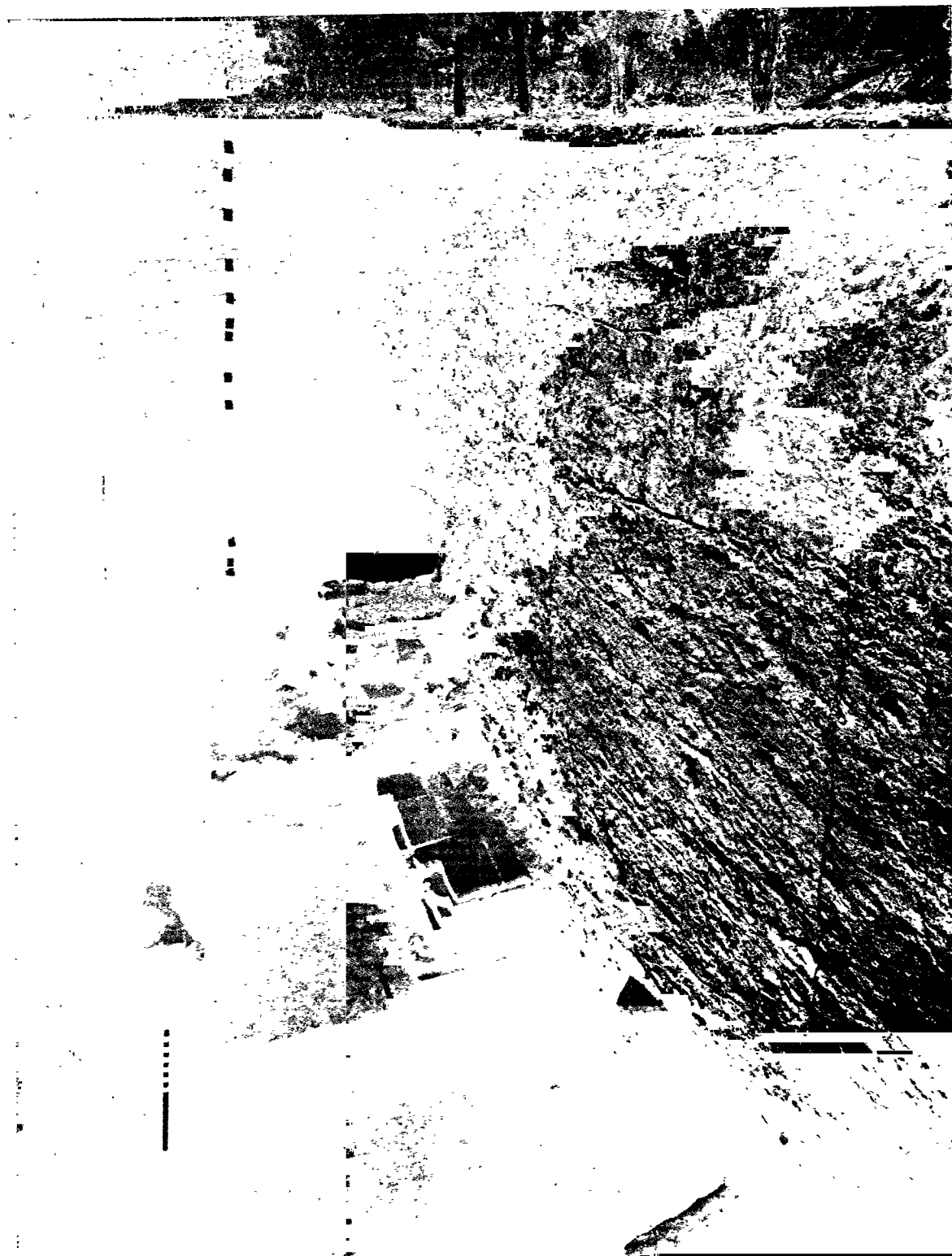


*KR I, A1, showing ovens of Period I looking north-east, and chips of the Mauryan polished stone of Period II. See p. 36*

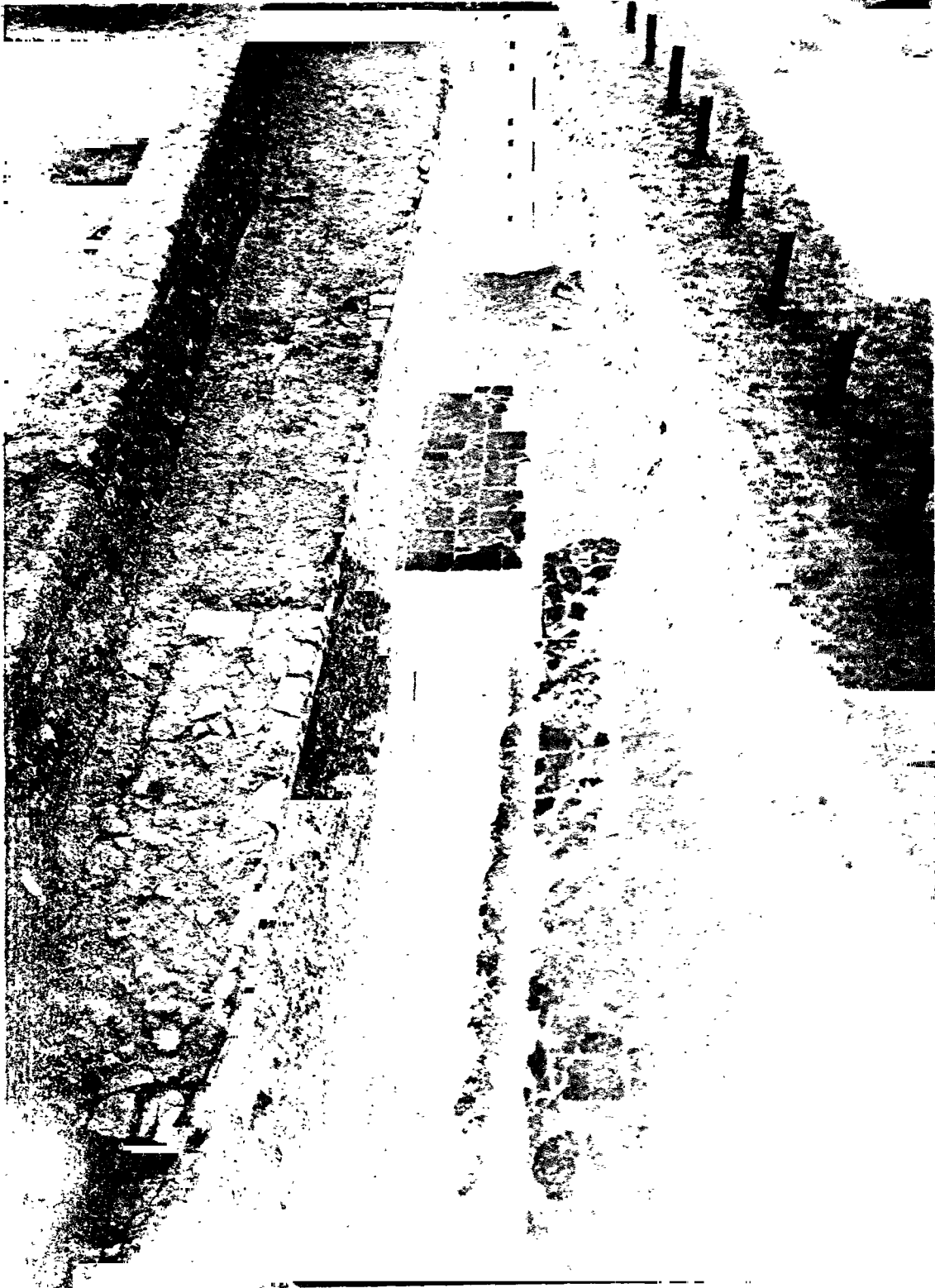


*KR IIA, showing apsidal Structure, section looking west. See p. 38*

PLATE XIV



*KR II, Cutting showing big wall of the Hall of Period IV, looking south. See pp. 38-9*

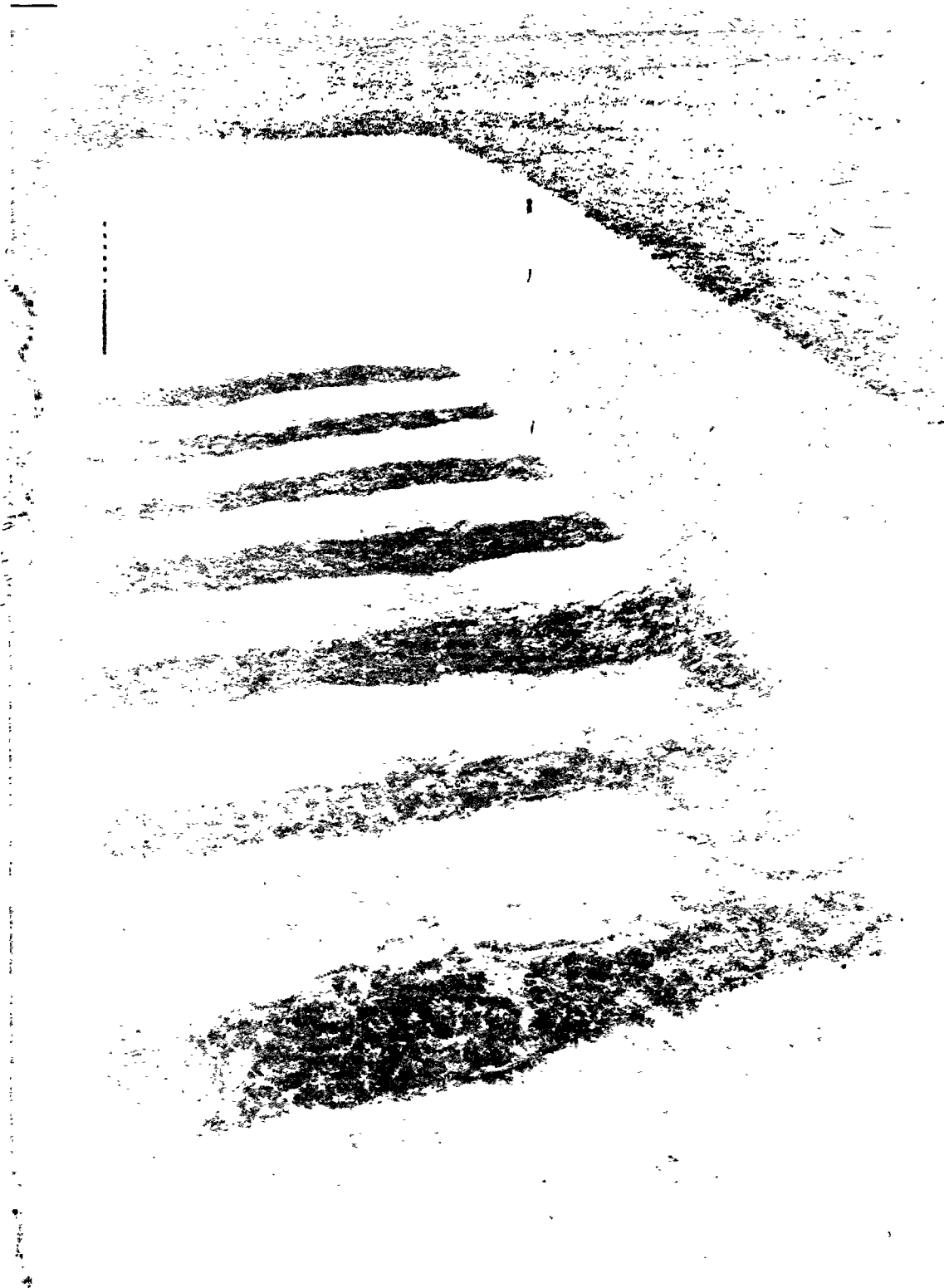


*KR II, Trench R, Cutting showing structures of Periods III and V. See p. 38*





*KR III, Cutting showing section of the drains of Pe' ' ' II*



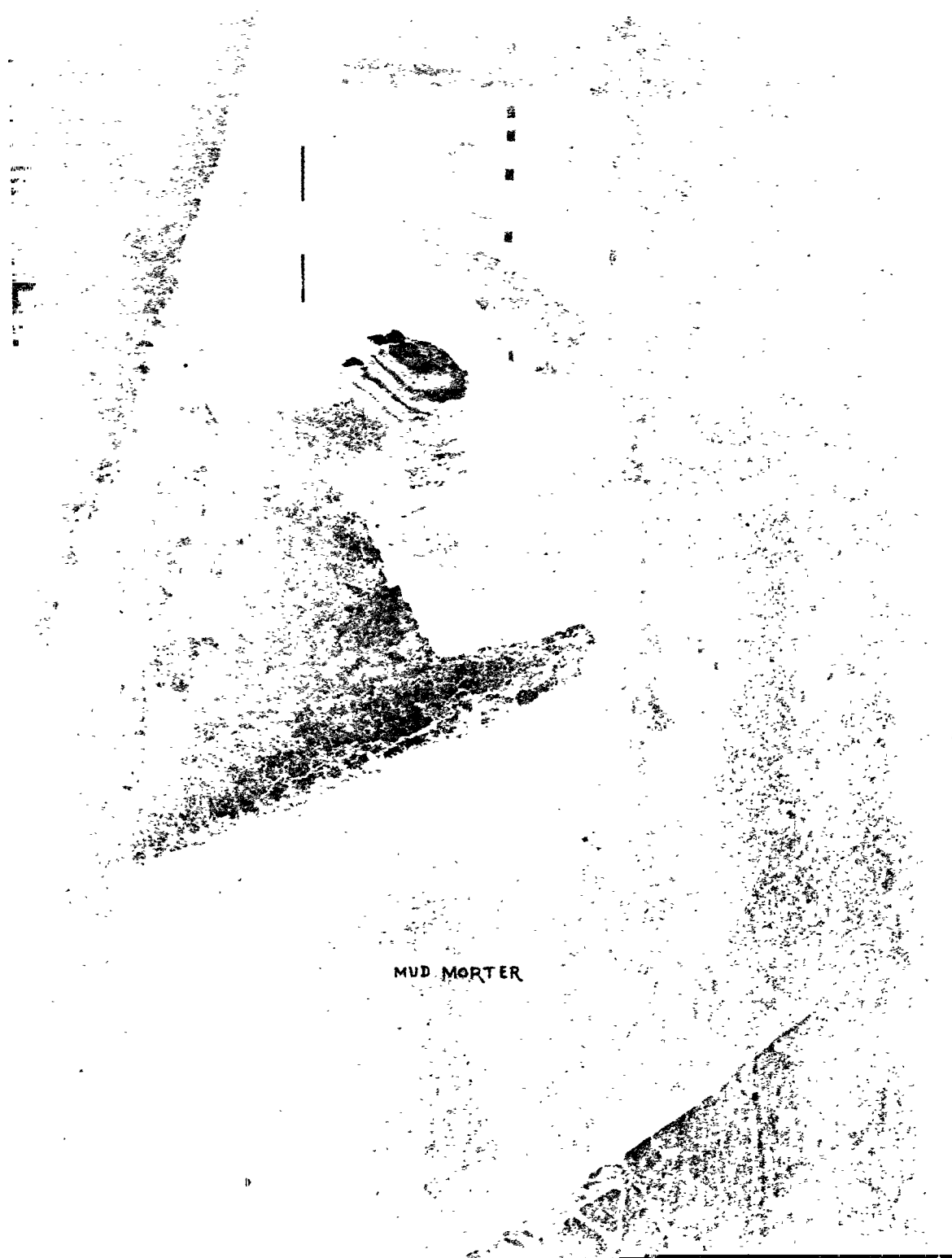
*KR IIIA, Cutting showing Plan of the drains, of Period IV, (before cleaning). See p. 40*



KR IV, Trenches  $\sim$ W $\sim$  showing a wing of a monastery of Period III. See p. 43



*KR IV, Trenches XC and XD, showing a monastic structure of Period III: Section looking south. See p. 49*



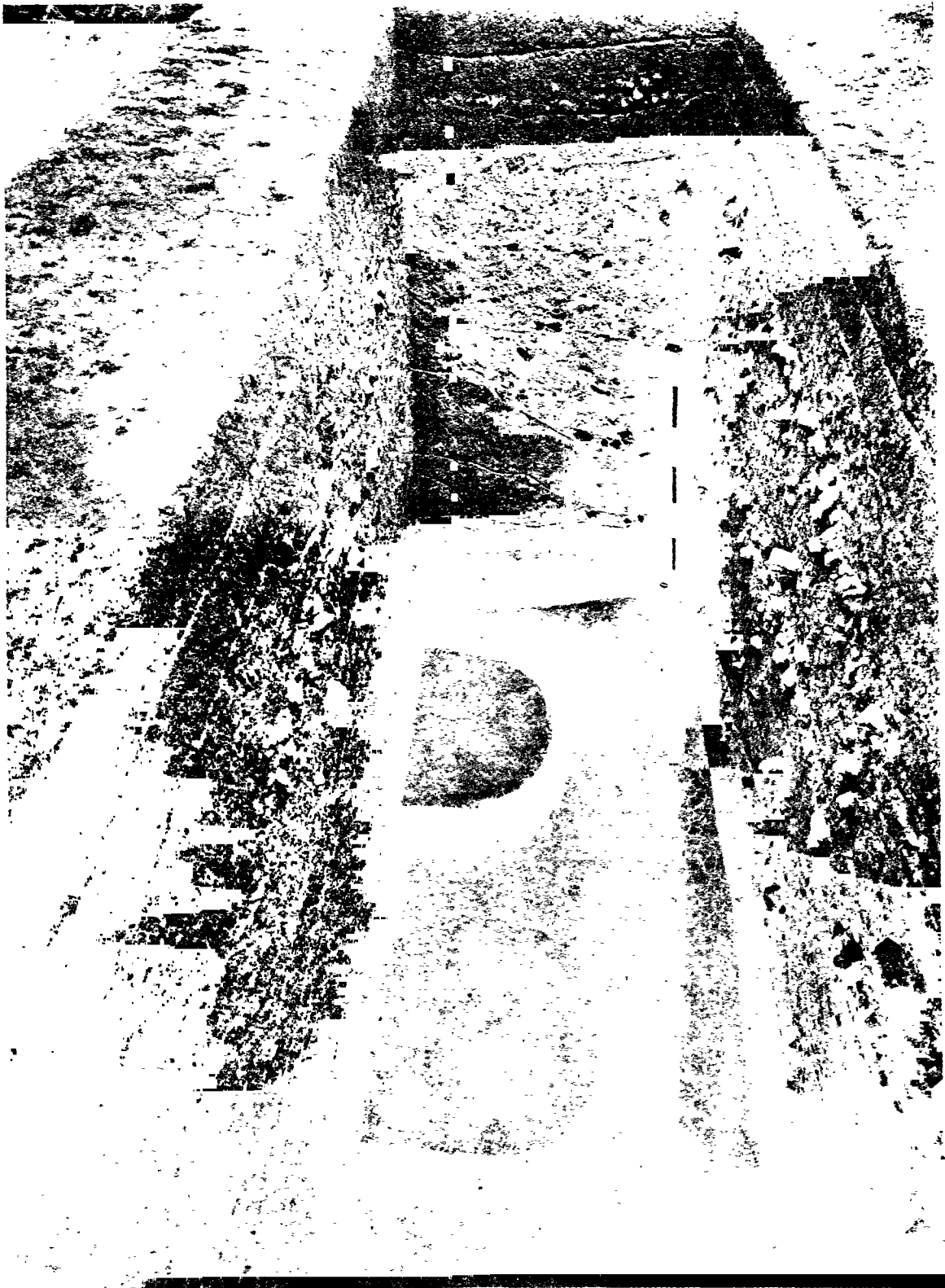
*KR IV, ZE<sup>3</sup> Cutting showing on Plan the Mud Mortar over the Concrete Foundation. See p. 50*



*KR IV, Cutting showing dilapidated stair-case of Period III looking North. In the foreground, a structure of Period V. See p. 50*



*KR IV, Cutting showing covered drains of Period II and III and a Wing of the monastery of Period IV. See pp. 51, 53*

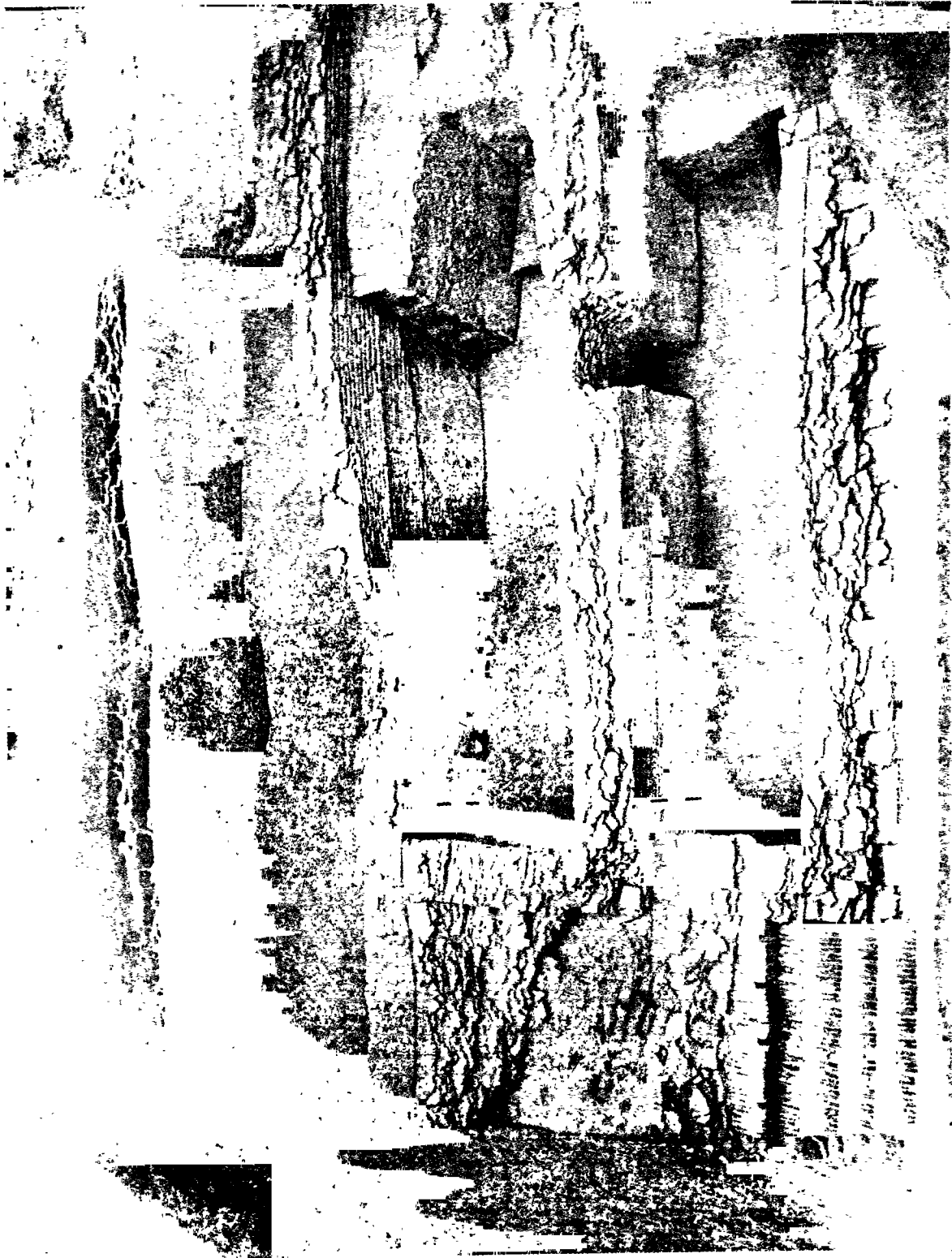


*KR IV, Trench XB, Section at peg VIII looking north, showing slope of the ground. See p. 50*





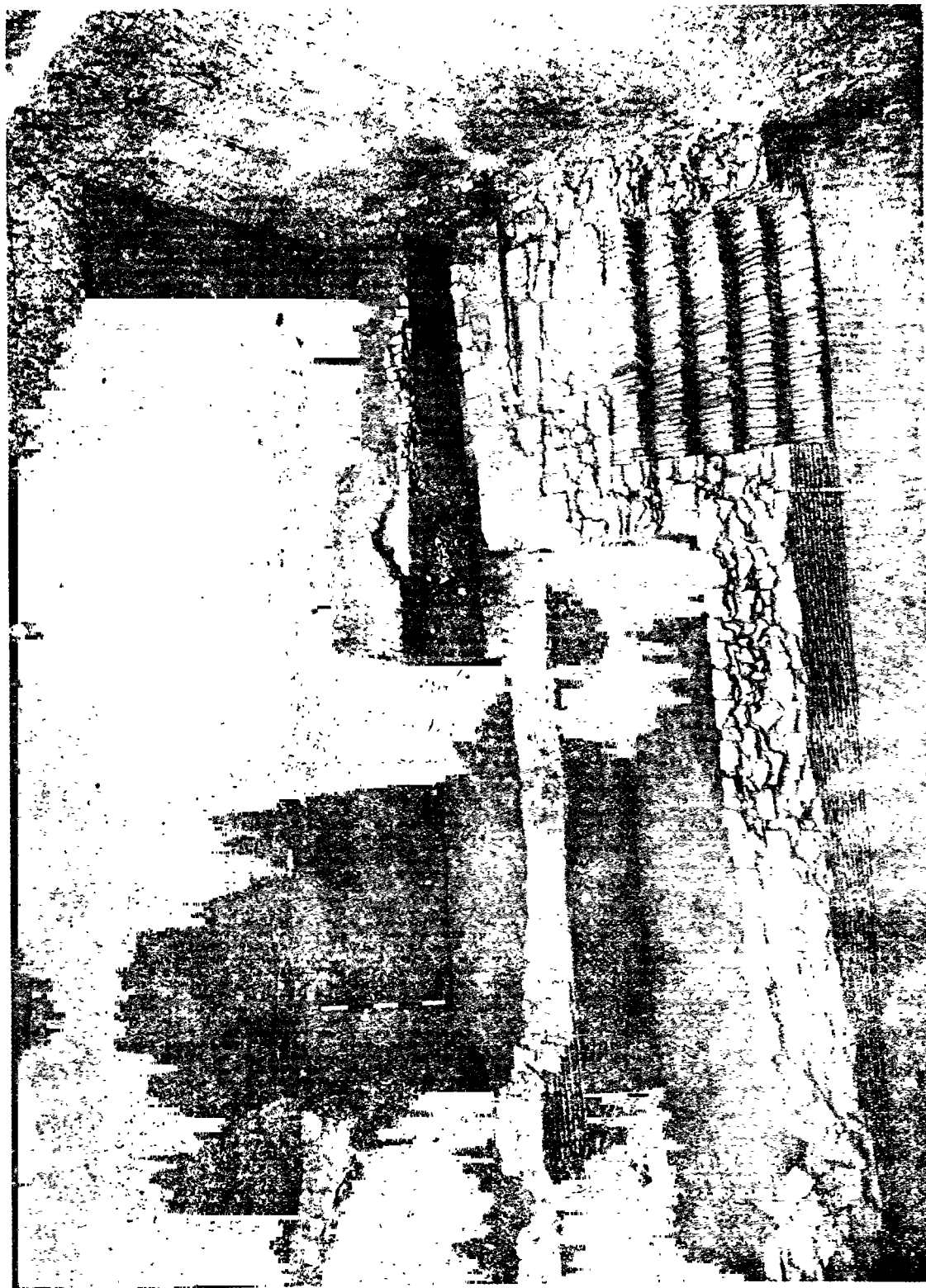
*KR IV, Trenches R and S, Cutting showing rooms of Period V, plastered with mud and surkhi. See p. 53*



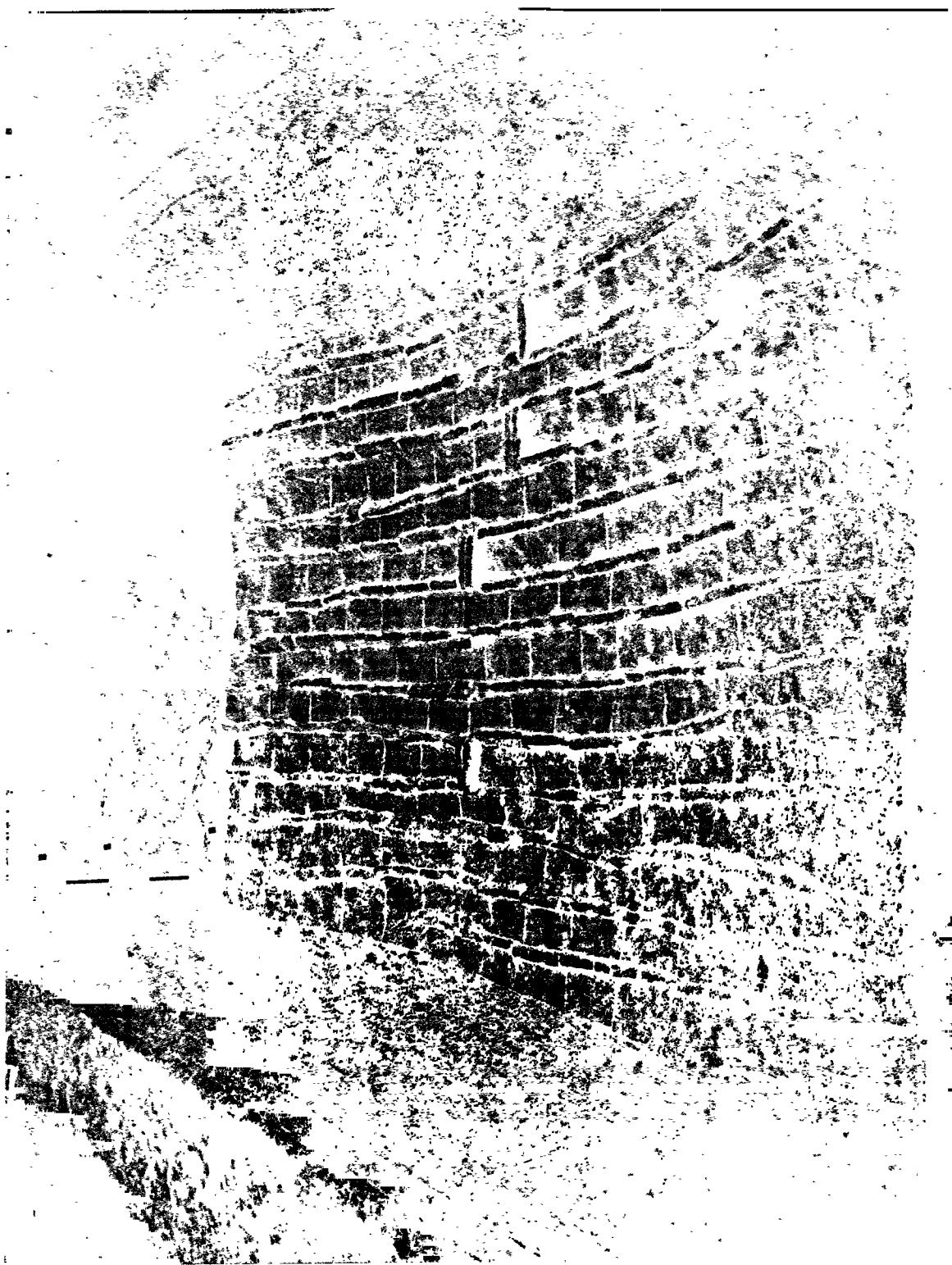
*KR V, Trenches A and B, showing a stair-case of the Tank and associated structures of Period IV. See p. 55*



*KR V, Trenches C and D. Another view of the structures and a stair-case of Period IV. See p. 55*



*KR V, Trenches C and D. Another view of the structure and staircase of Period IV, looking west. See p. 55*



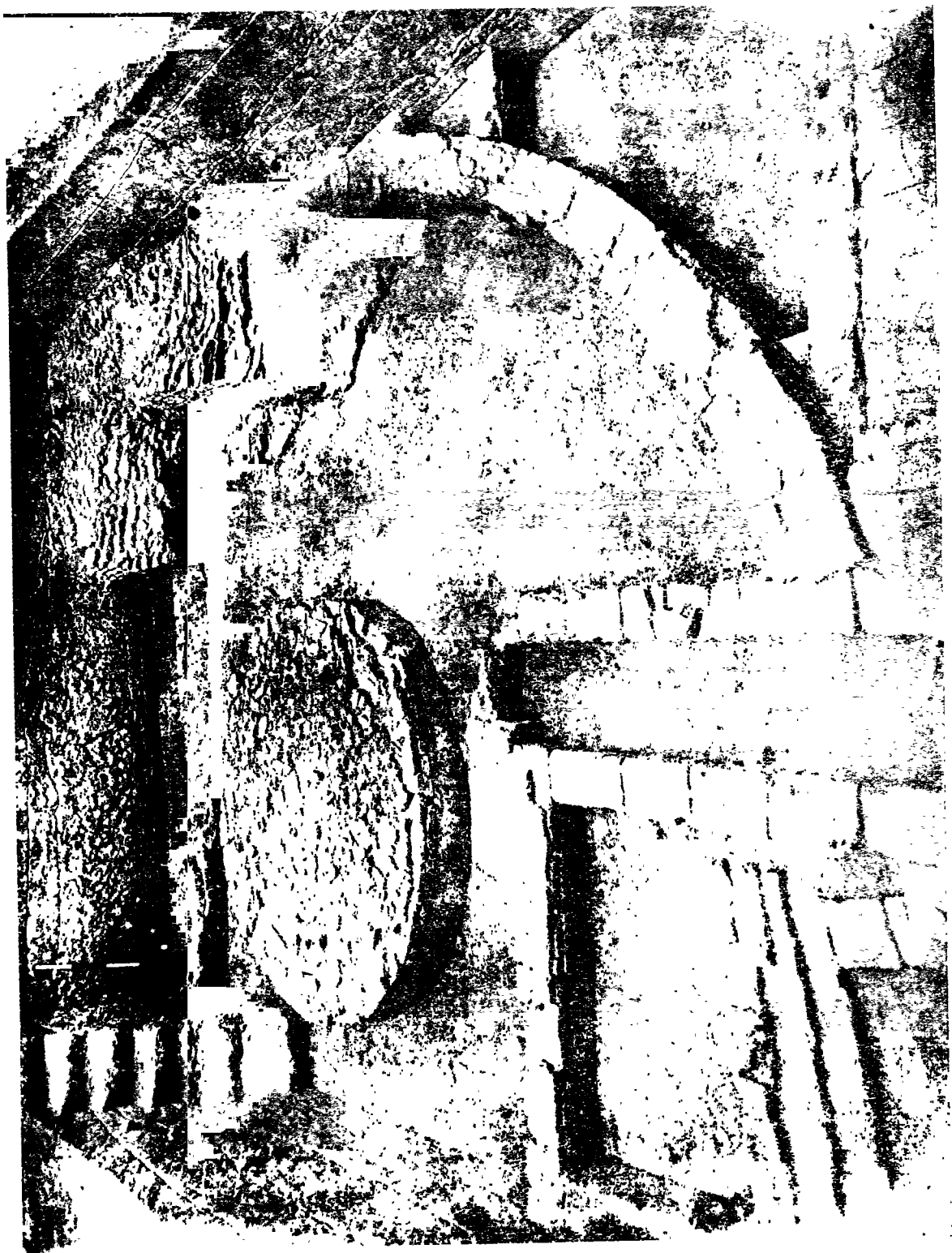
*KR V, Trenches E and G; cutting showing drains of Period V. See p. 56*



*KR V, Trench showing structures of Periods II and III. See p. 56*

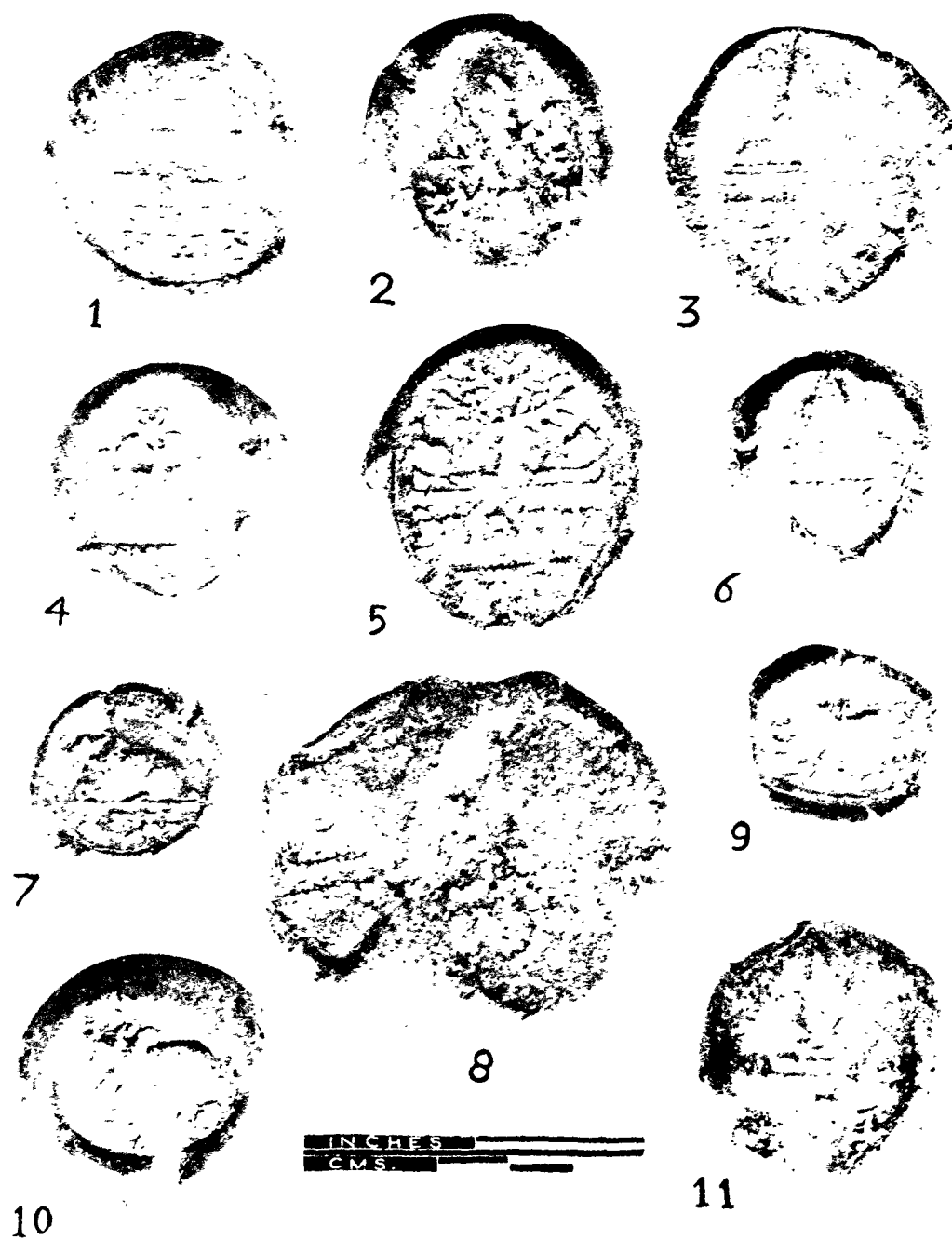


*KR VII, Trench E, showing three rectangular columns of Period III on the right and a Wall of Period II on the left. See p. 57*

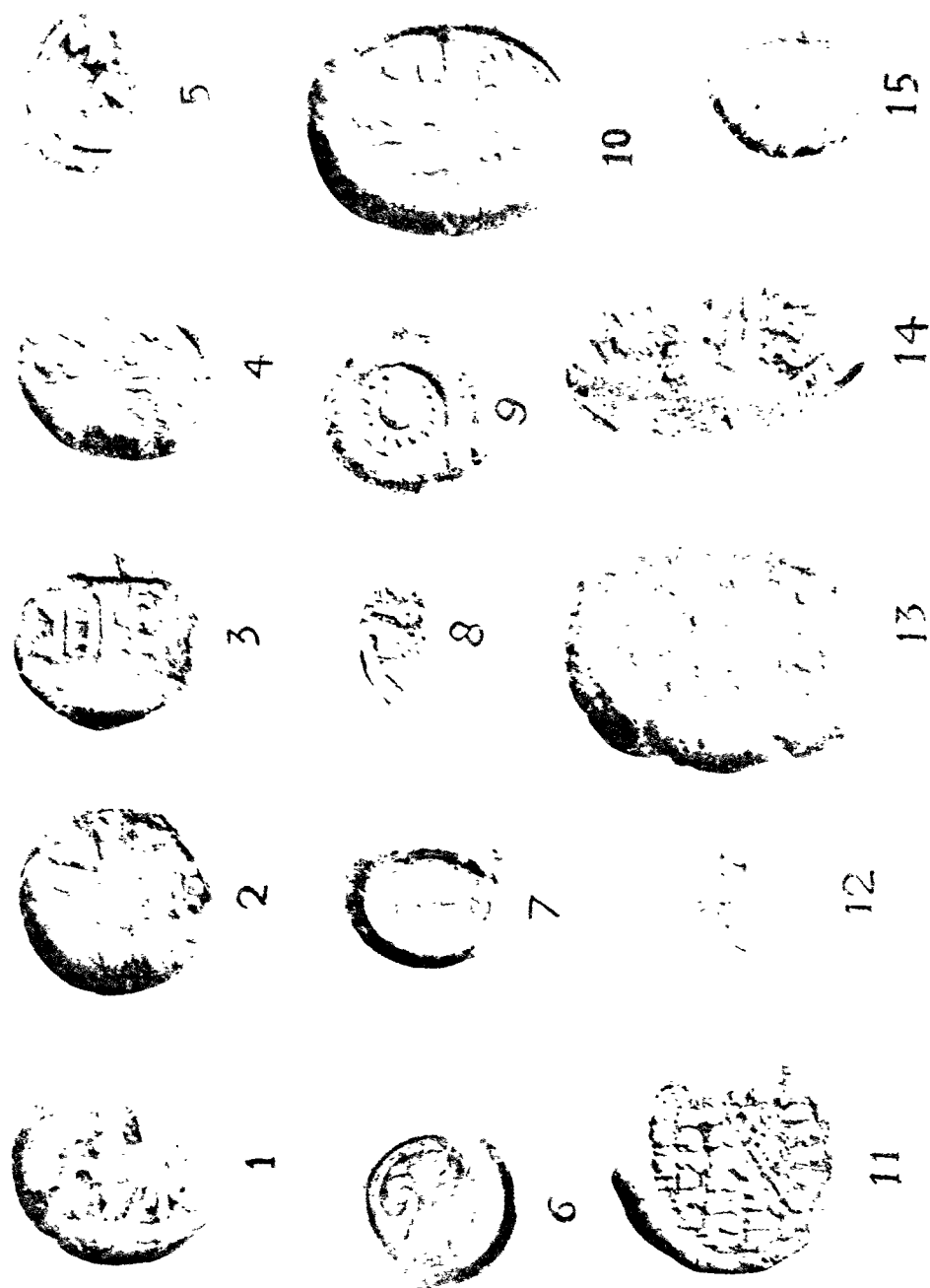


*KR VII, Trenches R and S; cutting showing a portion of the Brick Chaiya. See p. 57*





*Inscribed terracotta sealings; Period IV. See pp. 103-5*



*Terracotta sealings. See pp. 103-5*

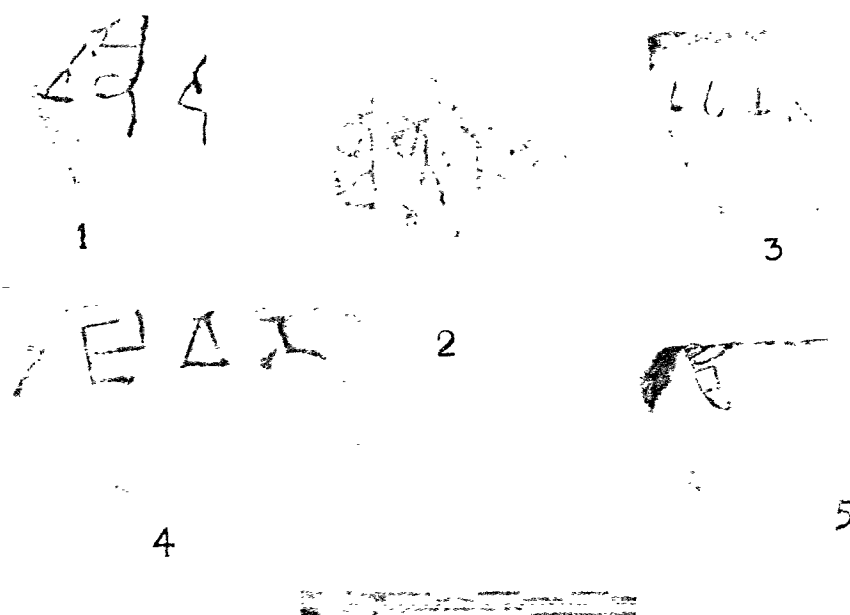
PLATE XXXIV

A

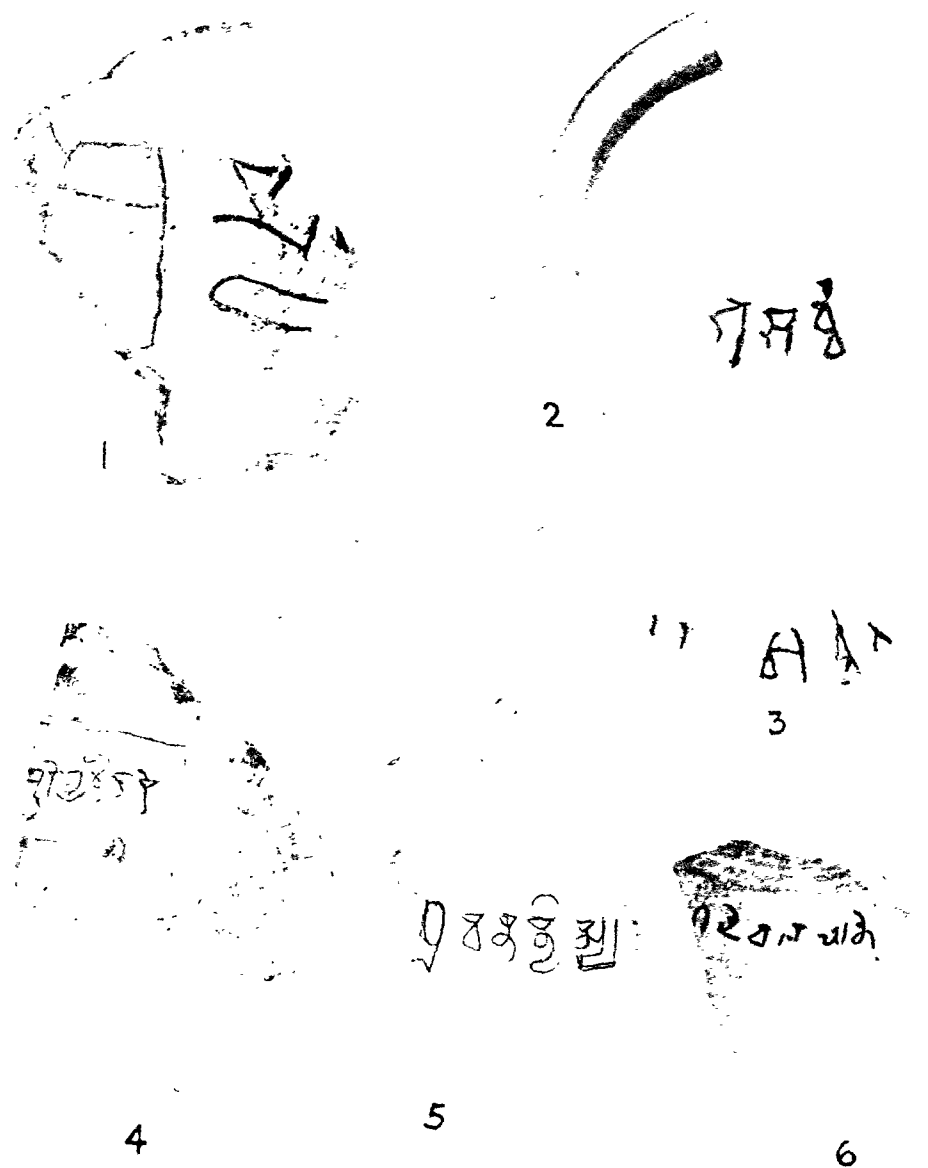


*Terracotta sealings. See pp. 104-5*

B



*Inscribed pot-sherds. See p. 106*

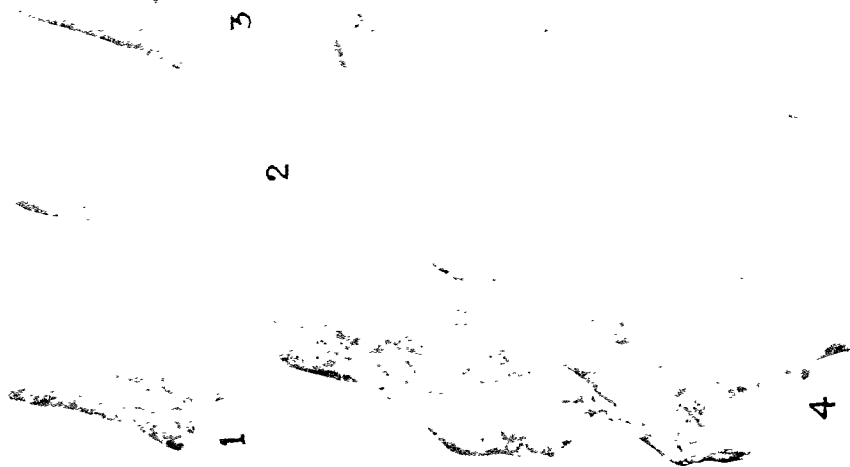


A



*Terracotta figurines, Period II. See pp. 112-113*

B



*Terracotta figurines, Period III. See p. 113*



*Fashionable person (vita.) in a gloomy mood. See pp. 113-4*



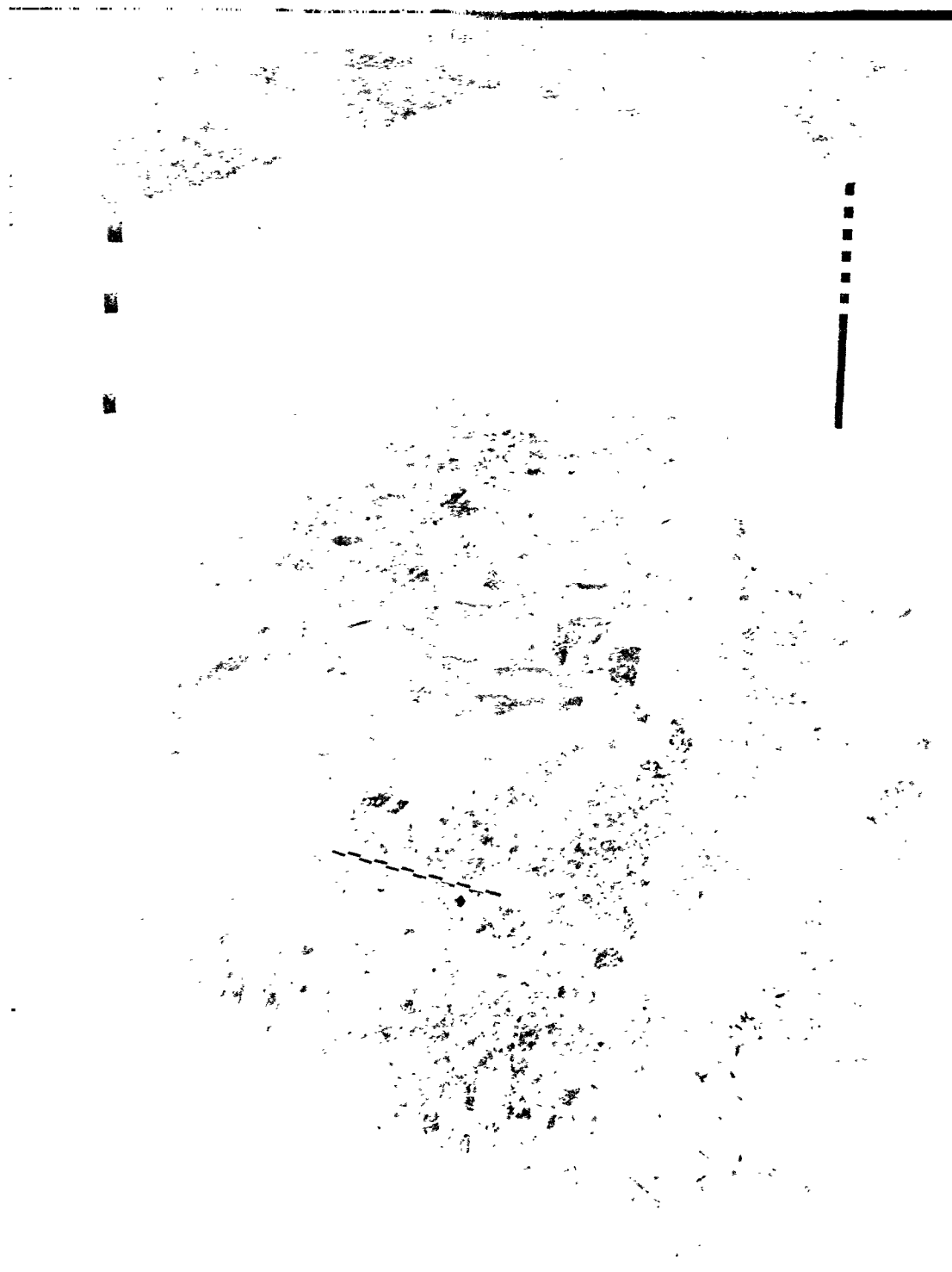
1. Terracotta figure of standing Vishnu. See p. 108  
2. A crude terracotta female figure. See p. 114



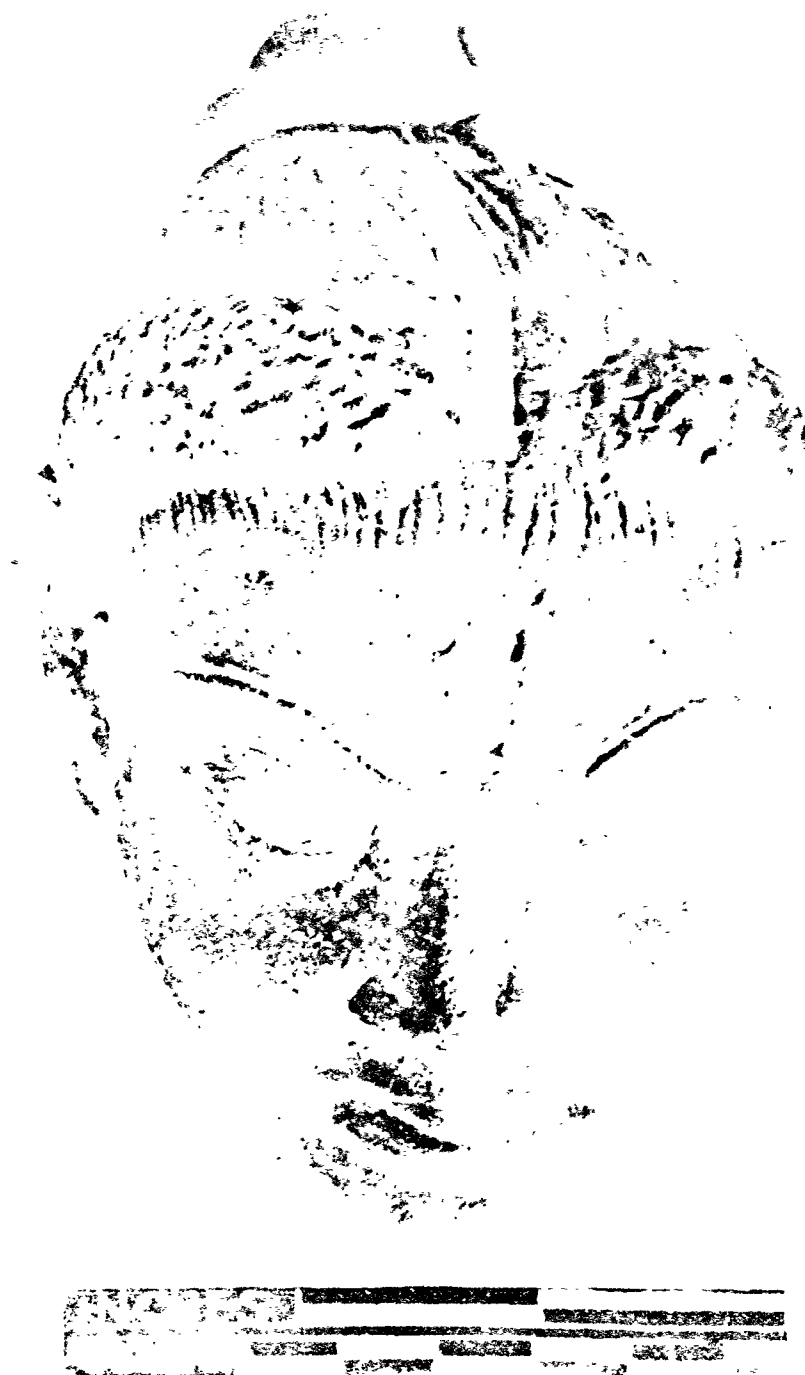
*Terracotta headless figure of flying Vidyādhara. See p. 114*



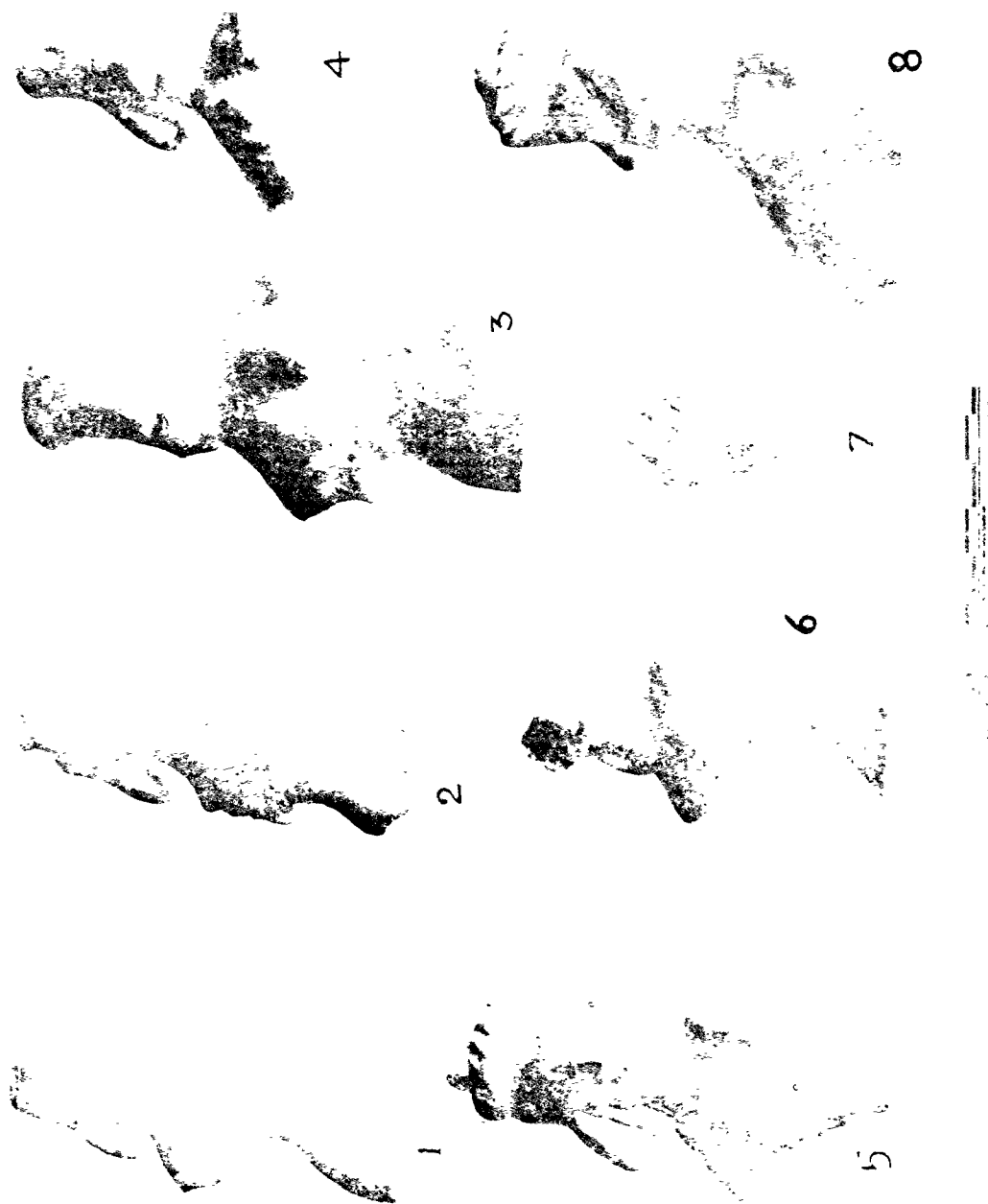
PLATE XL



*Terracotta mithuna figure, broken. See p. 114*



*Terracotta head of a female devotee. See p. 114*



*Terracotta Naigameša figurines. See pp. 109-12*

A

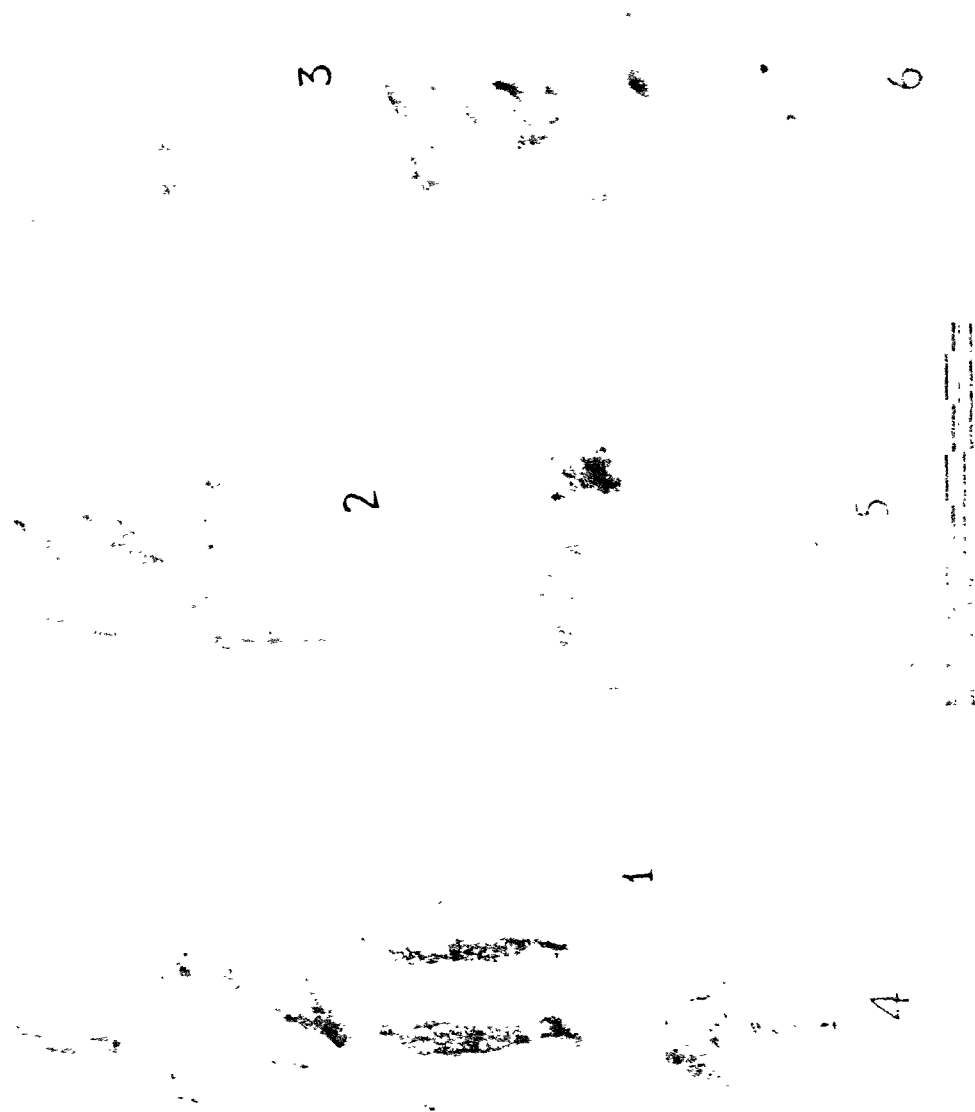


*Terracotta figurines of worshippers. See pp. 111-12*

B

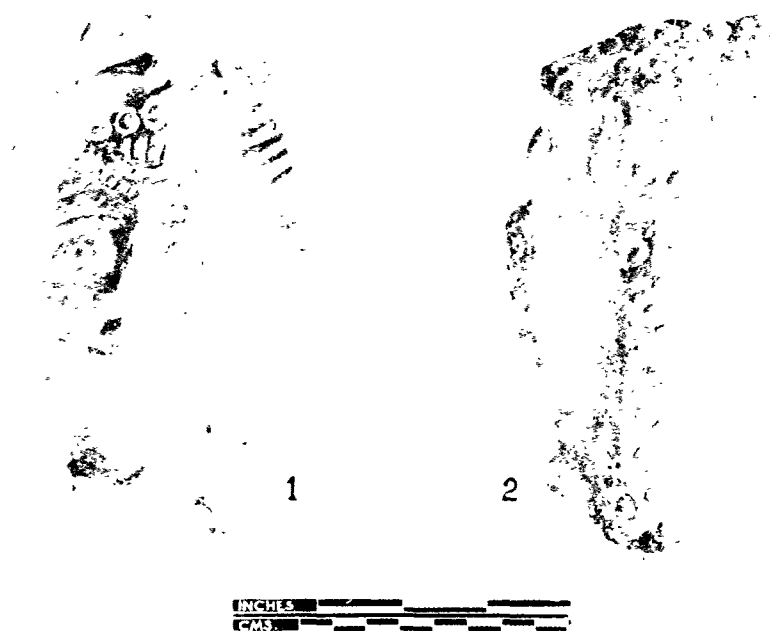


*Terracotta Naigamesa figurines. See pp. 109-12*



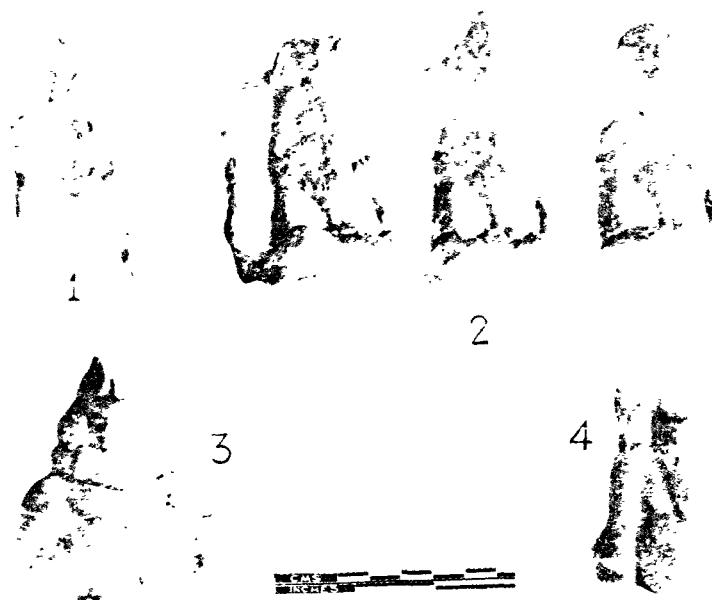
1-3 Terracotta figurines of the Buddha and Bodhisattva, 4 Terracotta head with a closefitting cap, 5,6 Terracotta figurines of mother and child. See pp. 108-9; pp. 115-16

A



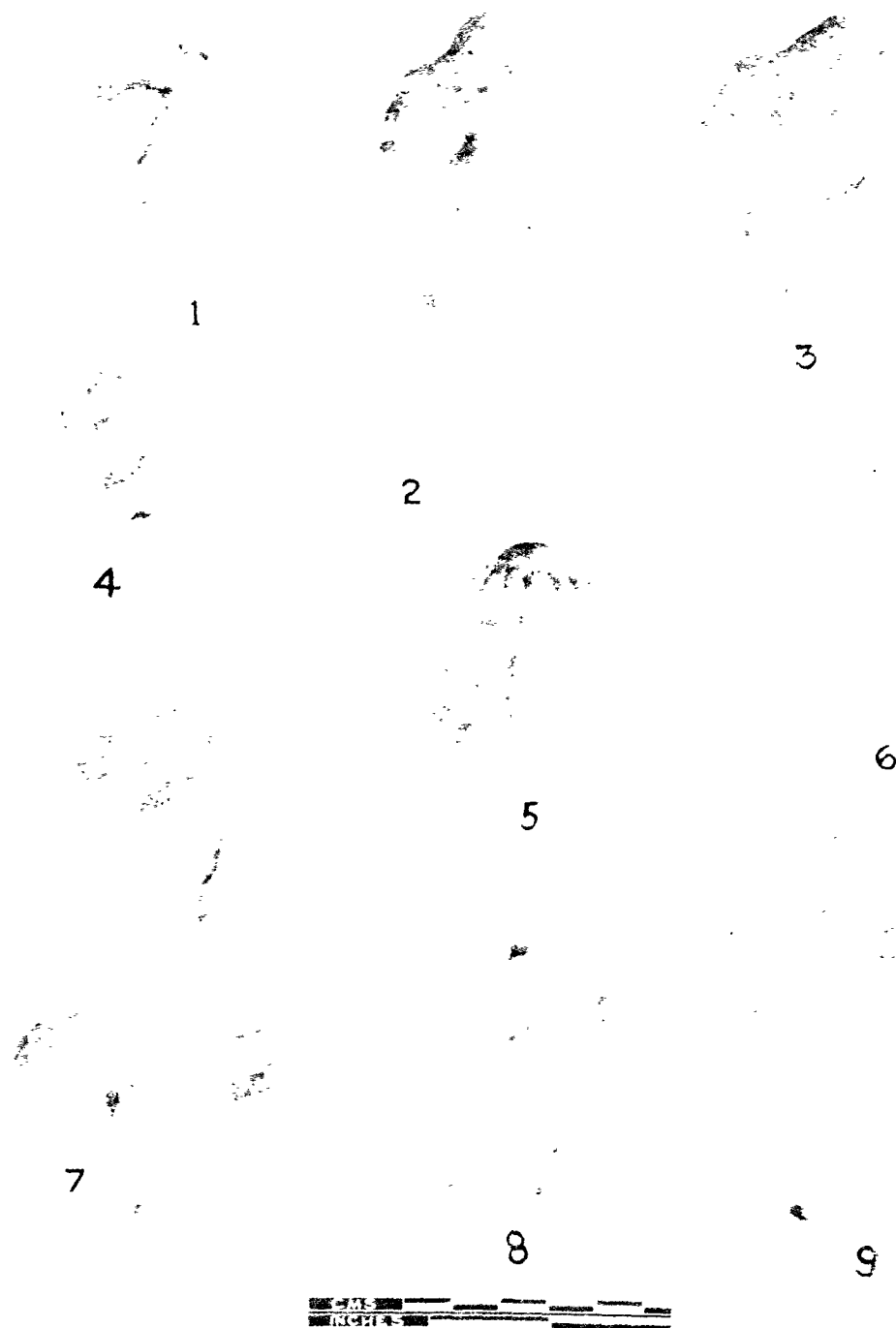
*Terracotta figure of Nāgadeva, 1, front side, 2, back side. See p. 109*

B

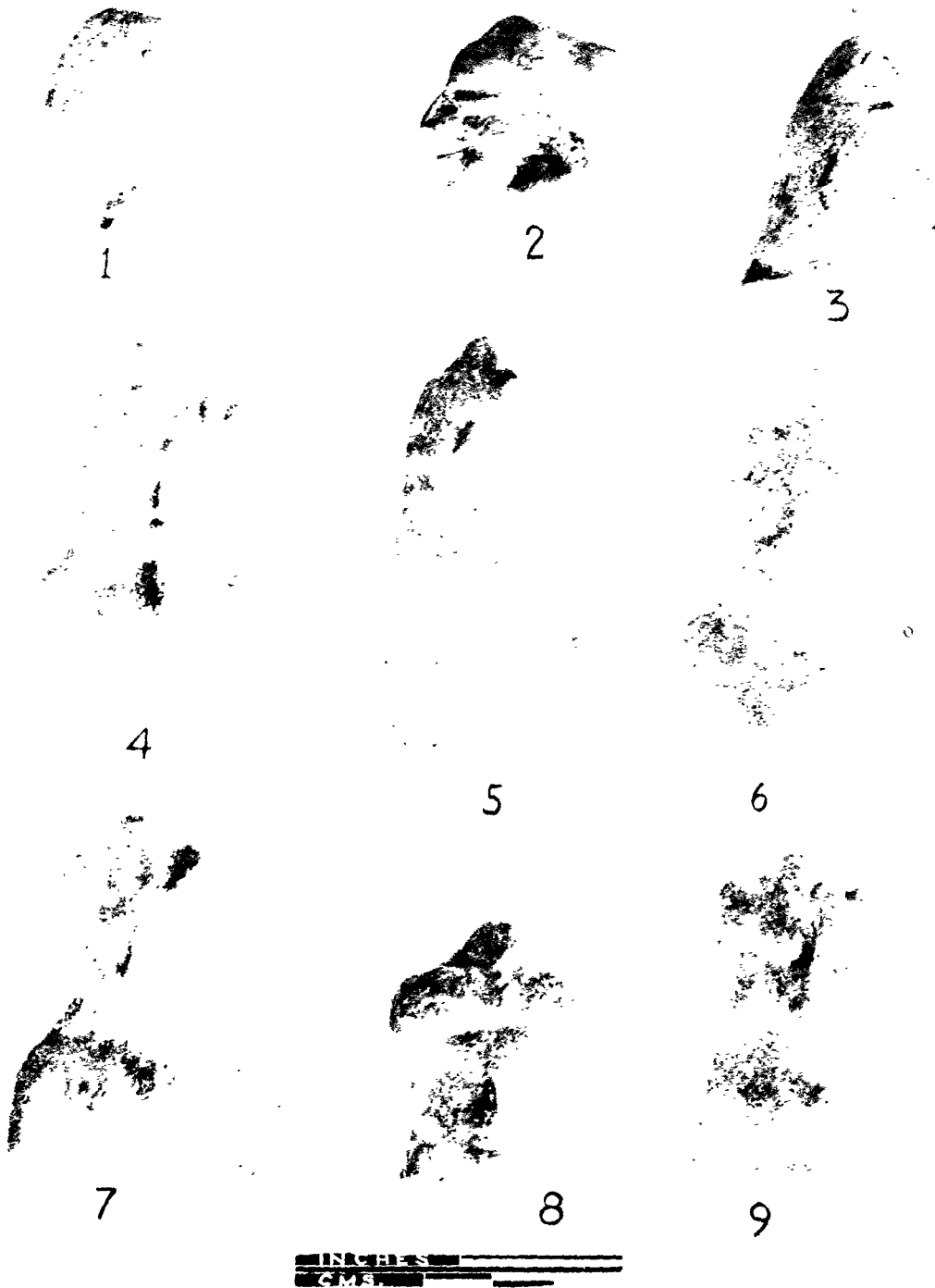


*1-2, Terracotta deities, 3, Terracotta chauri-bearer, 4, Terracotta figurine of Ganeśa  
See p. 104, p. 115*

PLATE XLVI



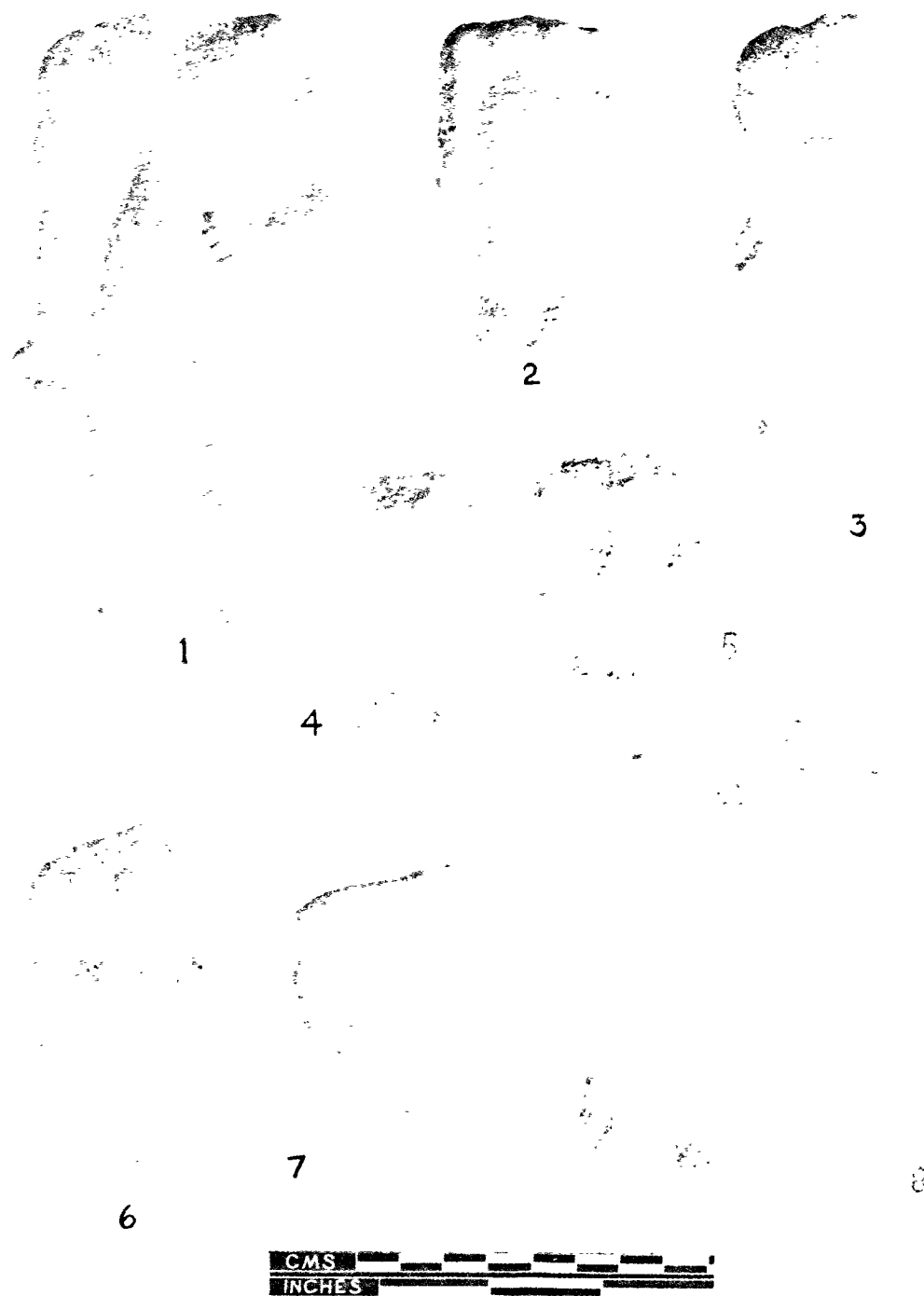
*Terracotta male and female figurines, showing coiffure. See p. 116*



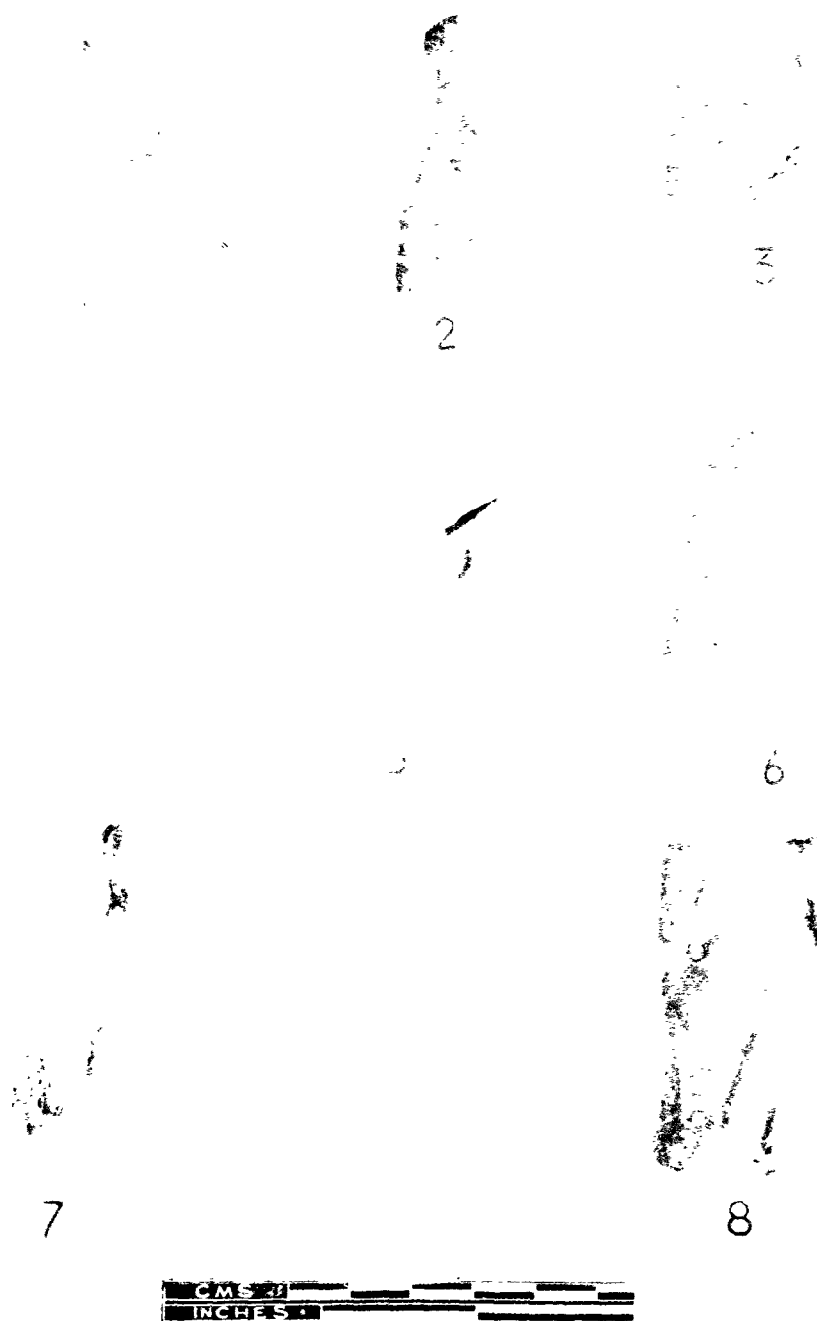
*Terracotta male and female figurines, showing coiffure. See p. 116*



PLATE XLVIII



*Terracotta figurines of worshippers. See p. 111*



*Small artistic human terracotta figurines. See pp. 114-15*

PLATE L



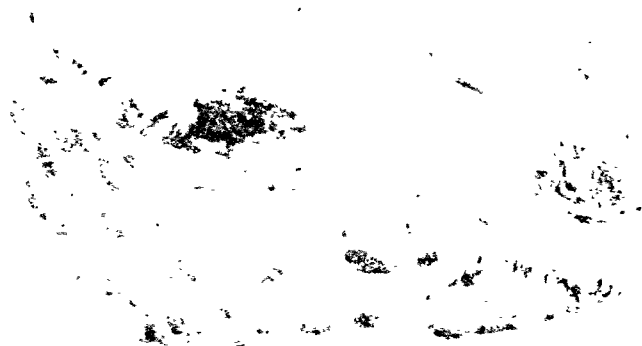
*Terracotta horses. See pp. 119-20*

B



*Terracotta figure of lady with a pitcher. See p. 111*

A



*Terracotta Winged deer. See p. 119*

A



*Terracotta elephants. See p. 119*

B



*Terracotta bulls, camel and ram. See p. 120 for 1, 2 and 3, p. 119 for 4*

A



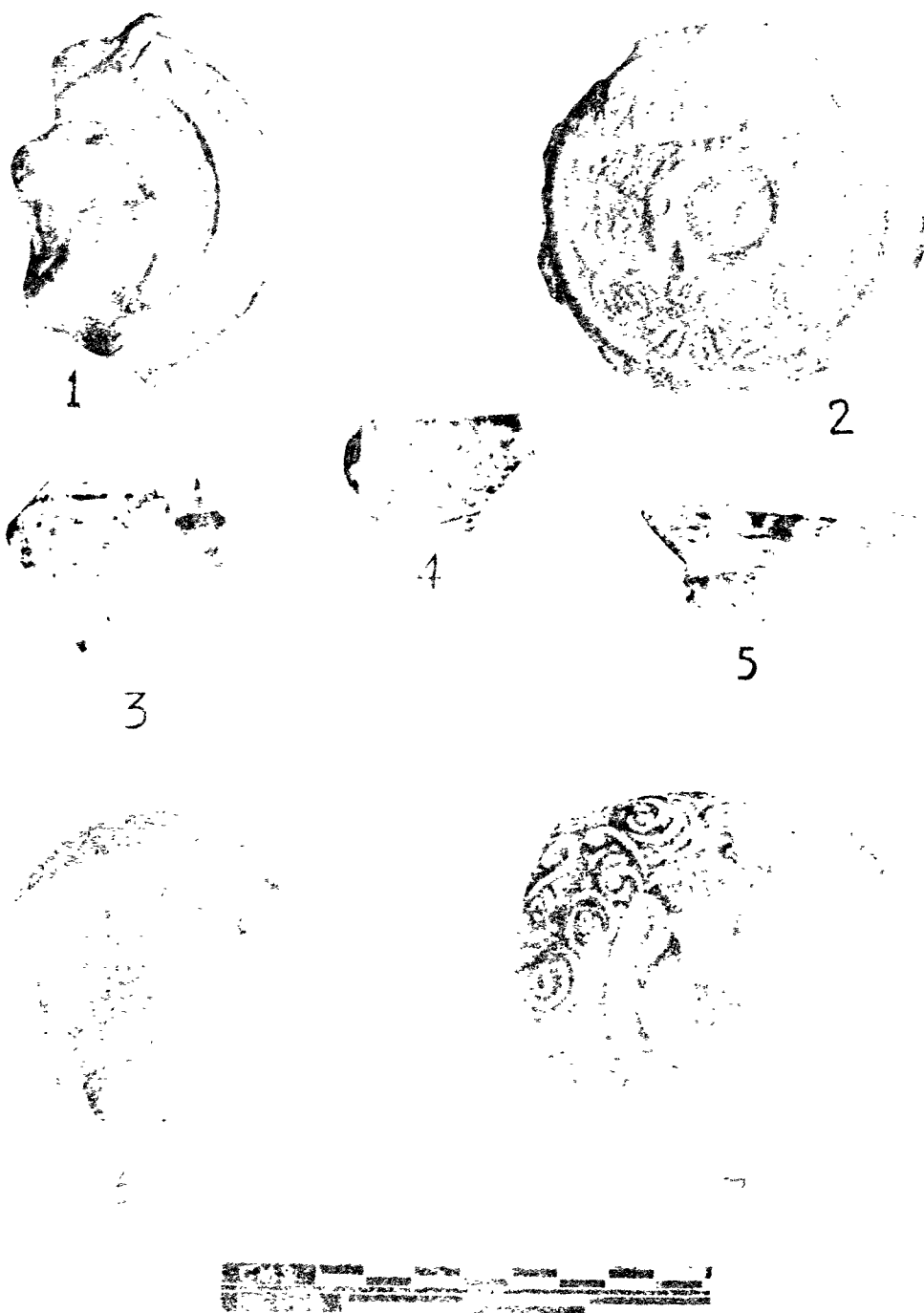
*Terracotta lions and tigers. See pp. 120-21*

B



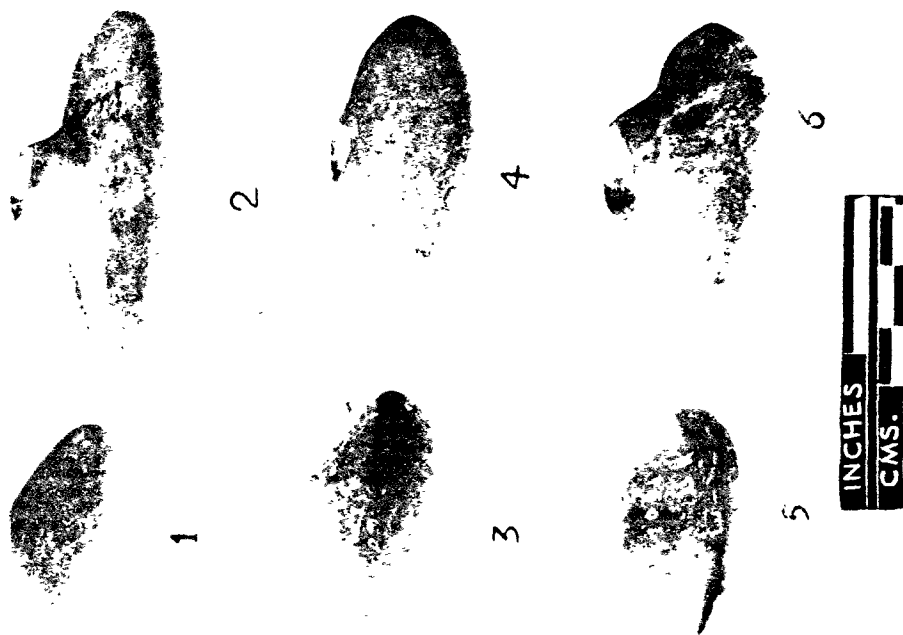
*Terracotta animals. See pp. 120-22*

PLATE LIV



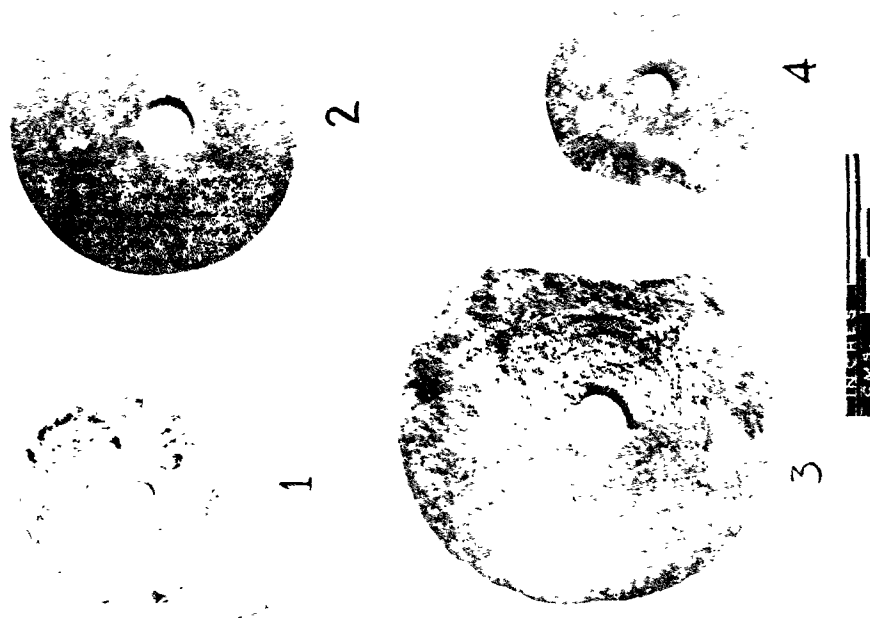
1 Disc; 2 Base of a pot; 3-5 Rivetted N.B.P.W; 6 Lid; 7 Bowl. See p. 83

A



*Terracotta wheels with hub on both sides. See pp. 123-25*

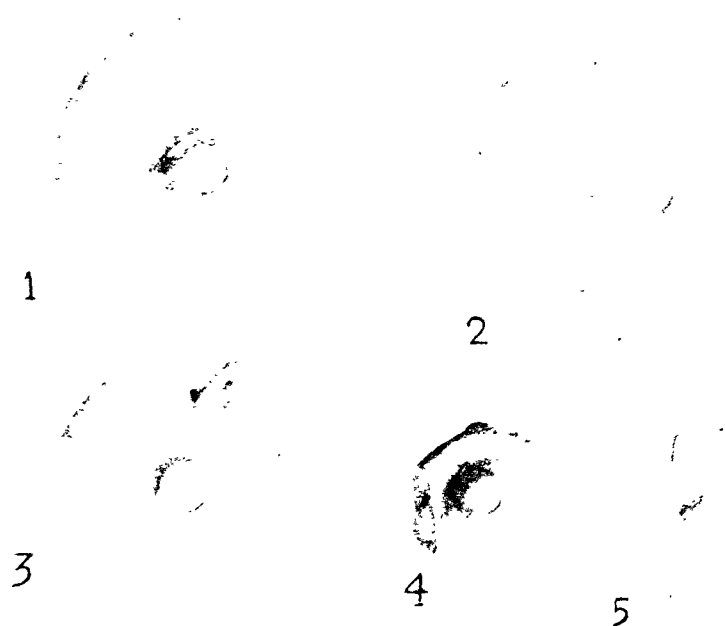
B



*Wheels, terracotta and stone. See pp. 123-25*

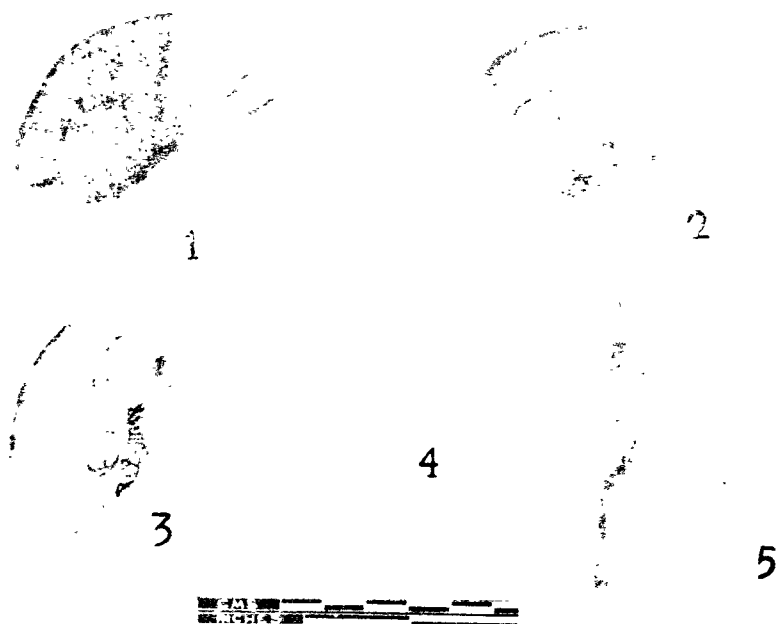


A



*Terracotta wheels, with hub on one side. See pp. 123-52*

B



*Terracotta decorated wheels. See pp. 133-5*

1

2

3

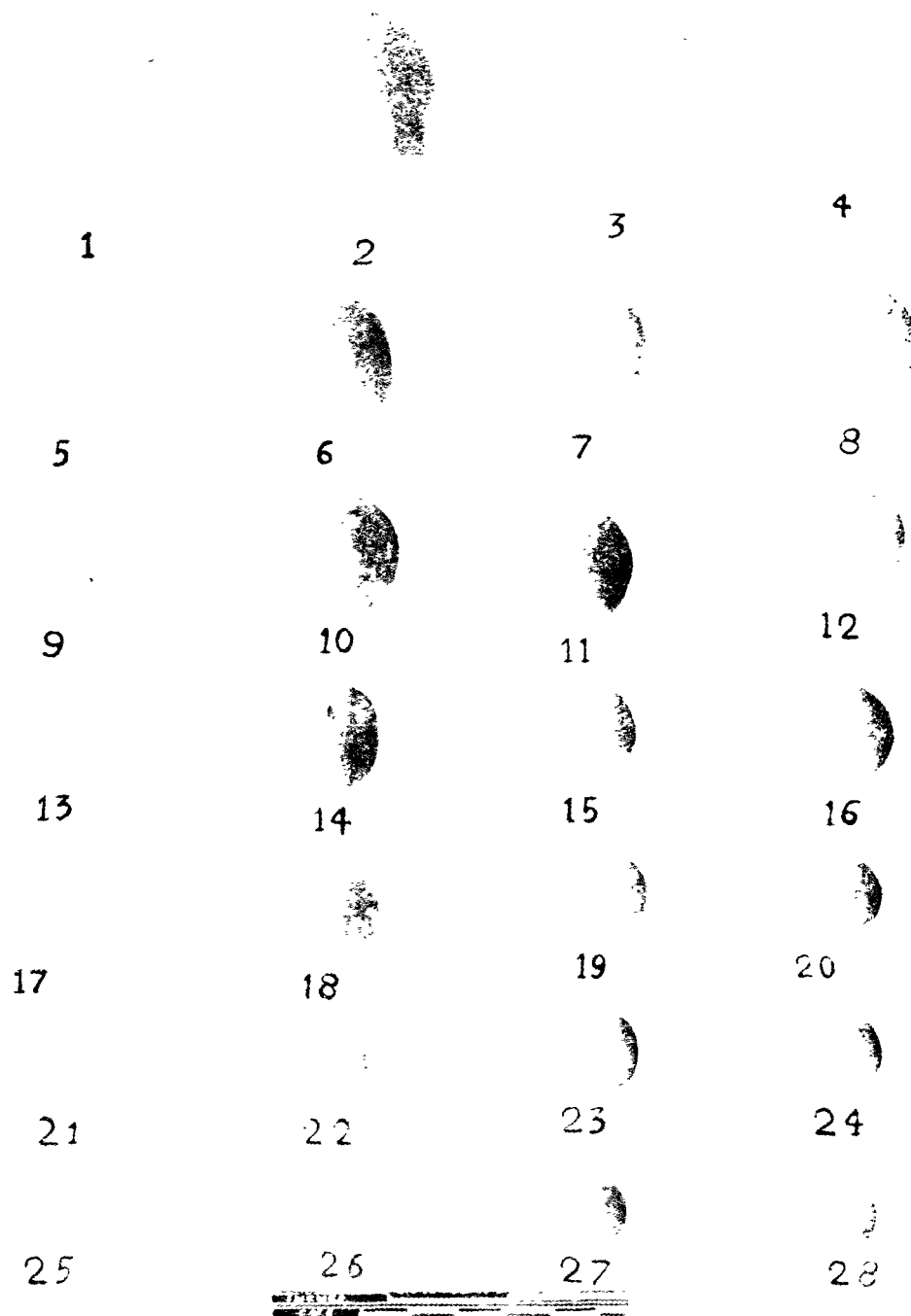
4

5

6



PLATE LVIII



A



B



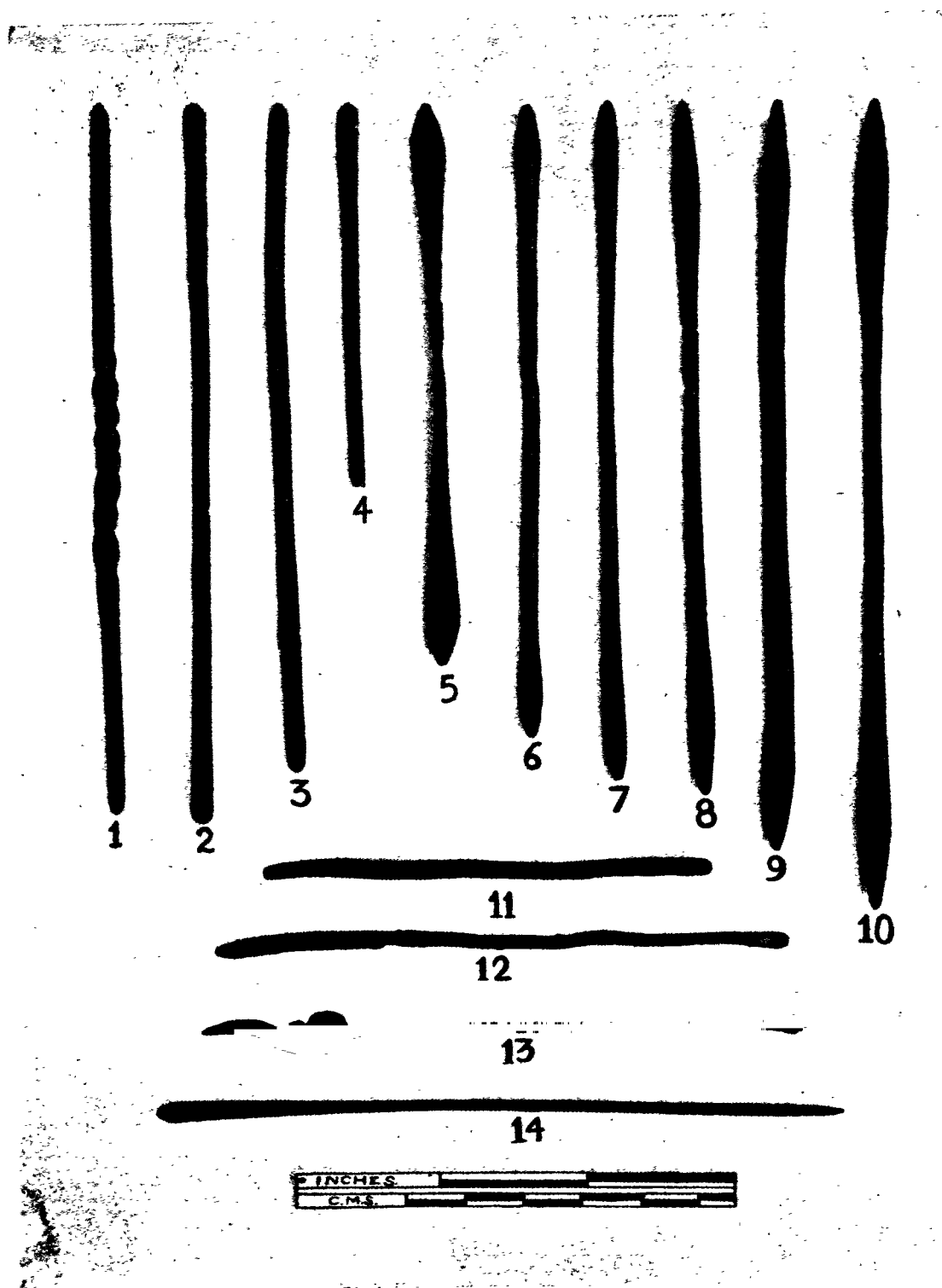
Scale  $\frac{4}{1}$



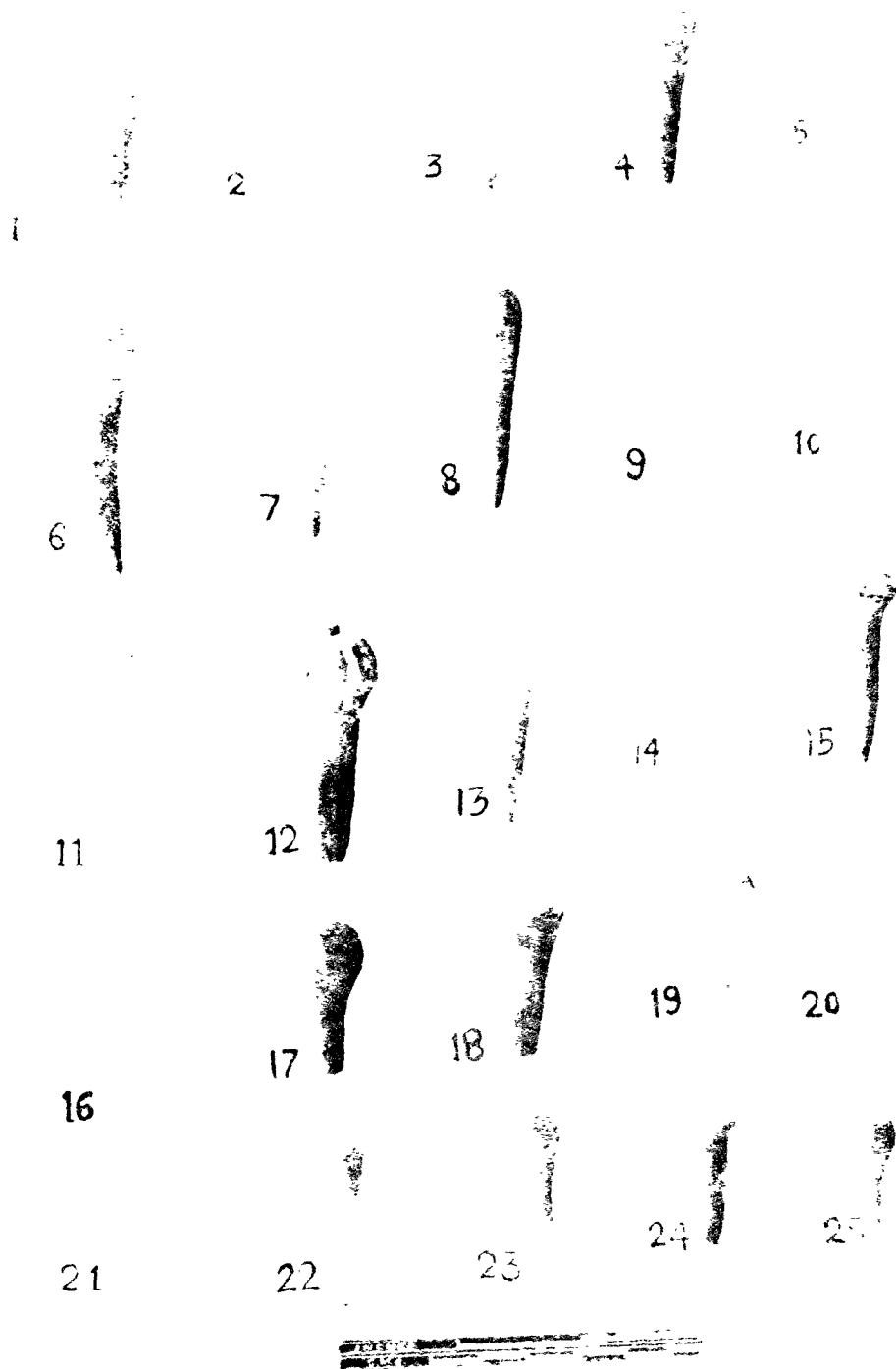
Scale  $\frac{4}{1}$

Personal Ornaments. See pp. 130-31

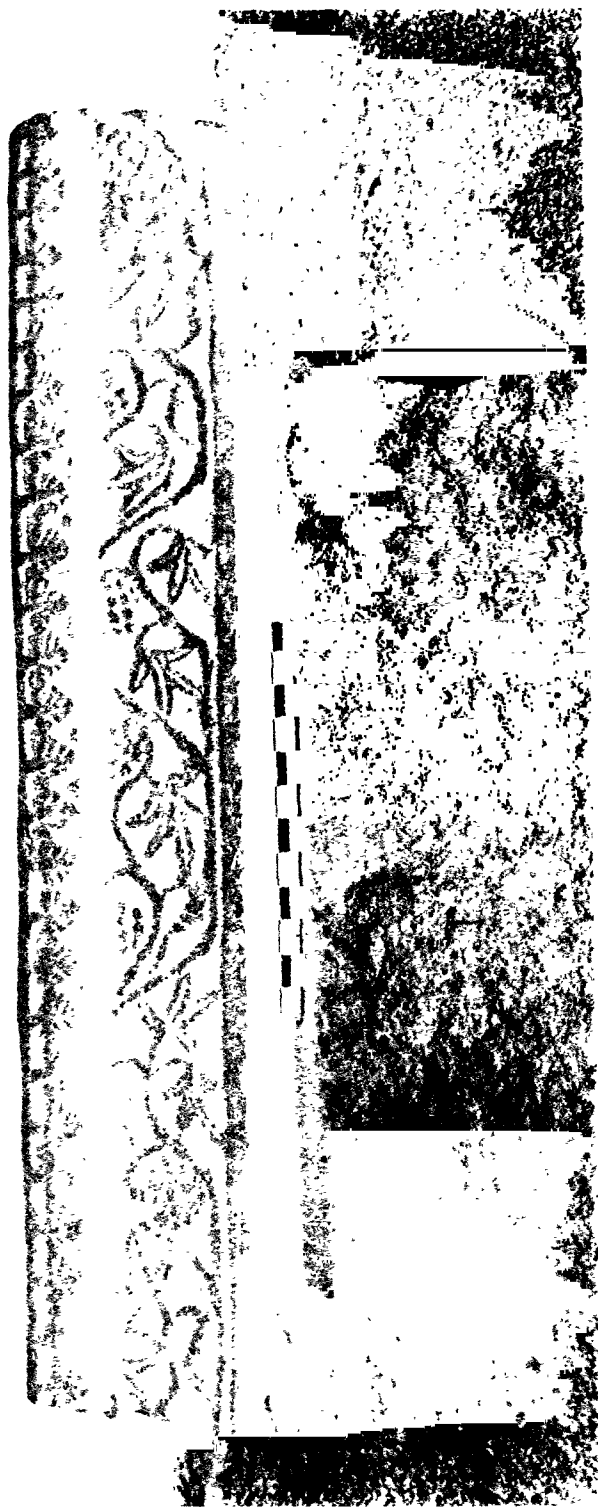
Gold talisman. See p. 131



*Antimony rods and a tooth pick cum ear cleaner (13). See pp. 135-36*



*Terracotta conical tops. See pp. 125-6*



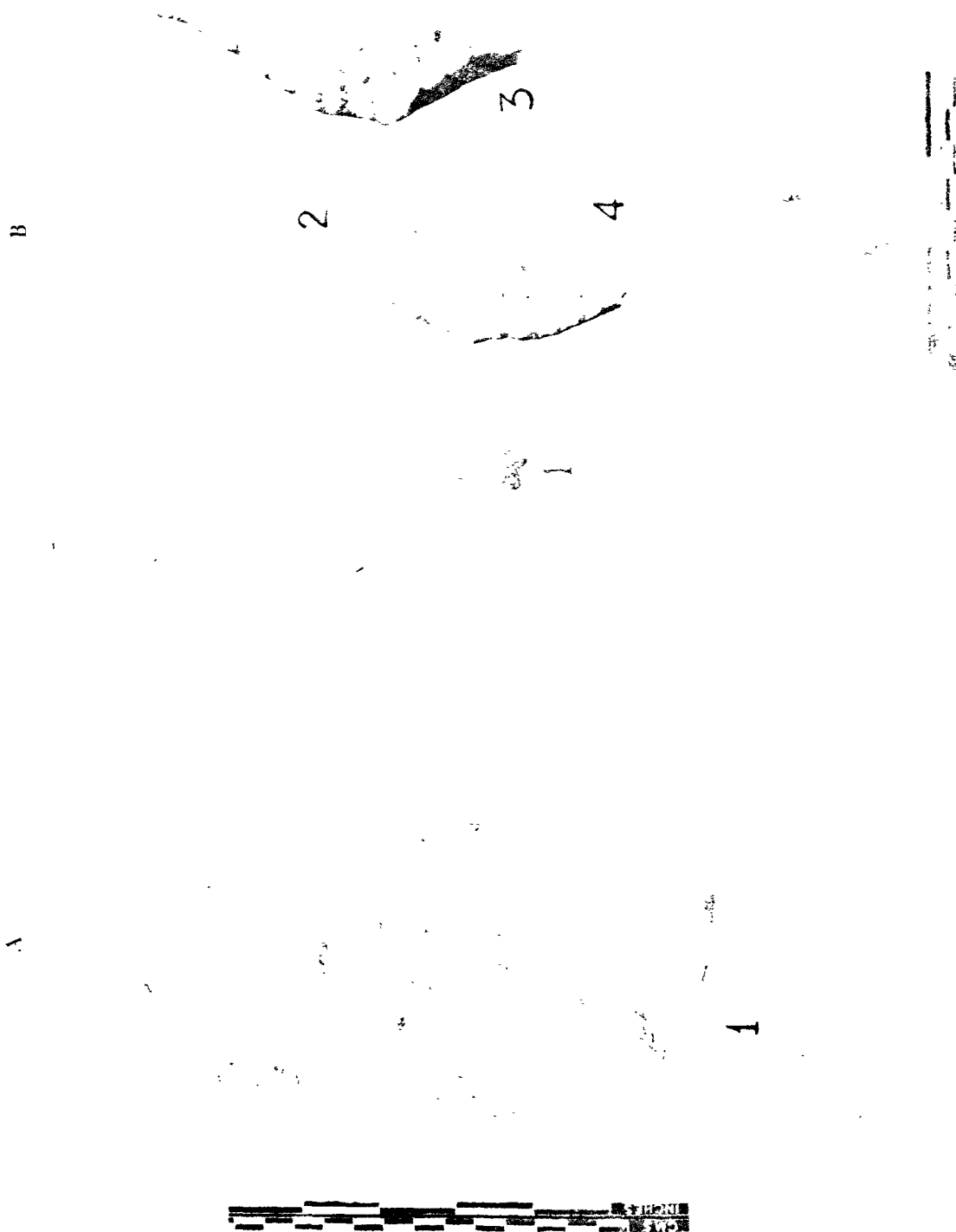
*Coping stone of a railing showing vine creeper and grapes; the former is being swallowed by a makara. See p. 137*



*A balustrade showing Stūpa being worshipped by a devotee. See p. 137*



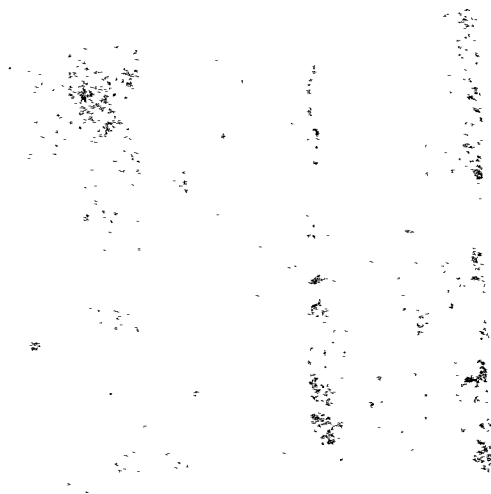
PLATE LXIV



Stone cross-bar. See p. 137

Fragments of Mauryan polished stones: Nos. 1, 3 and 4 are carved. See pp. 137-38

A



*Elevation of Mauryan stone capital base. See p. 139*

B



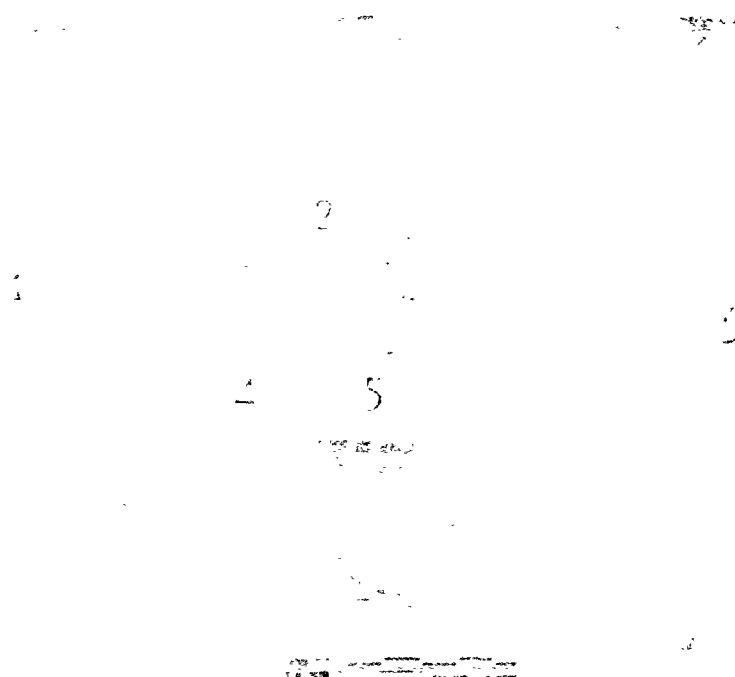
*Plan of Mauryan stone capital base. See p. 139*

A



1, 3 and 4, sand stone bowls; 2, sand stone human foot. See p. 138

B

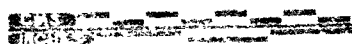


Carved stone objects. See p. 138

A

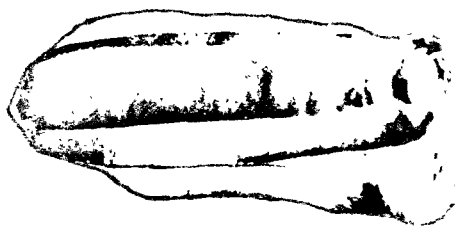
2

3

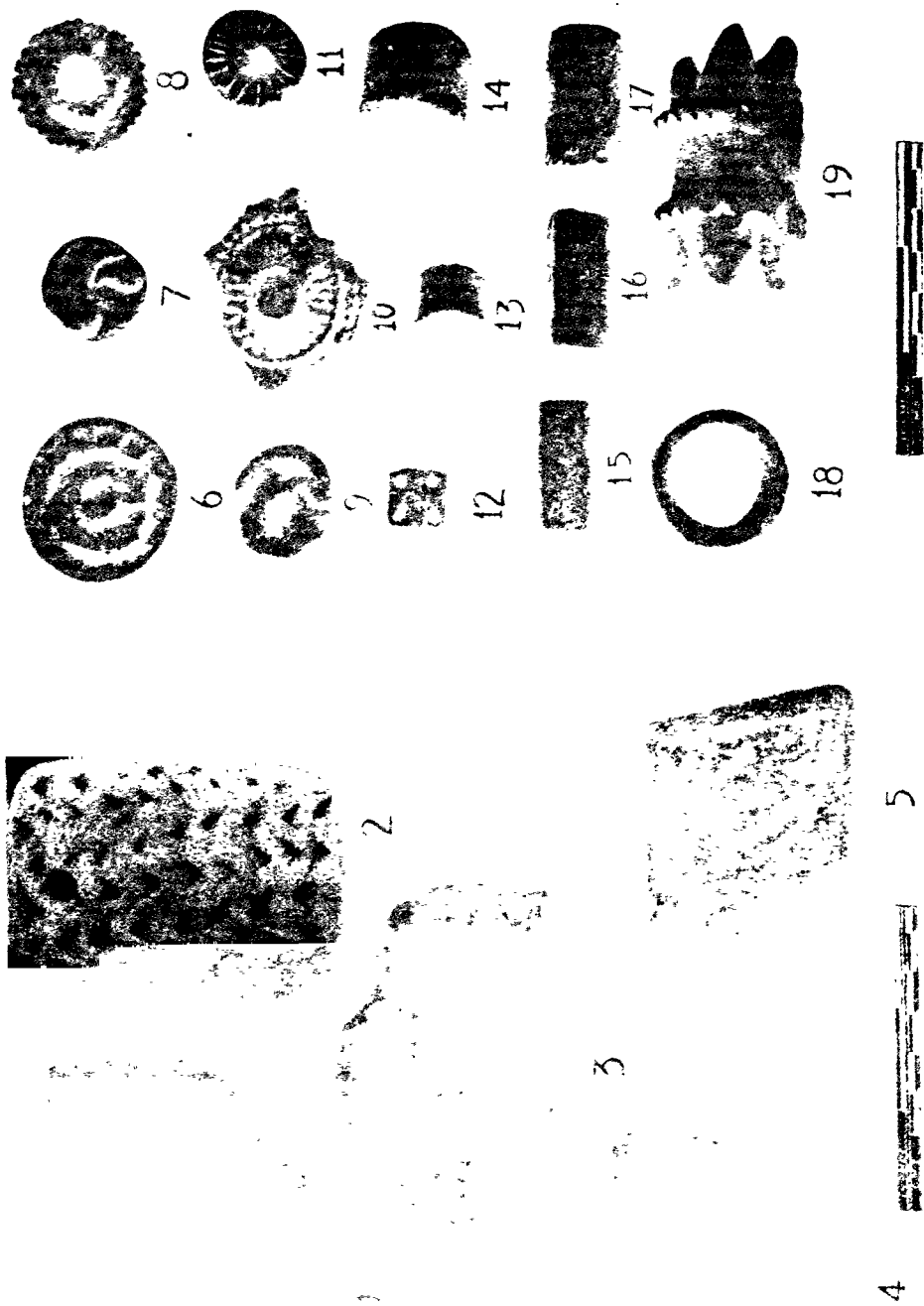


*Carved stone objects. See p. 138*

B



*Chalcedony fluted core. See p. 139*

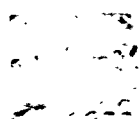


*Dice, skin rubbers etc. See pp. 126-27; p. 129*

A



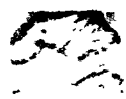
1



2



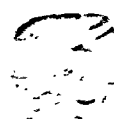
3



4



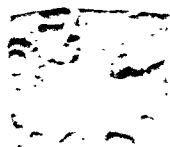
5



6

*Silver punch-marked coins. See pp. 86-88*

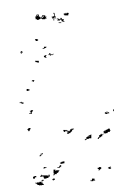
B



7



8



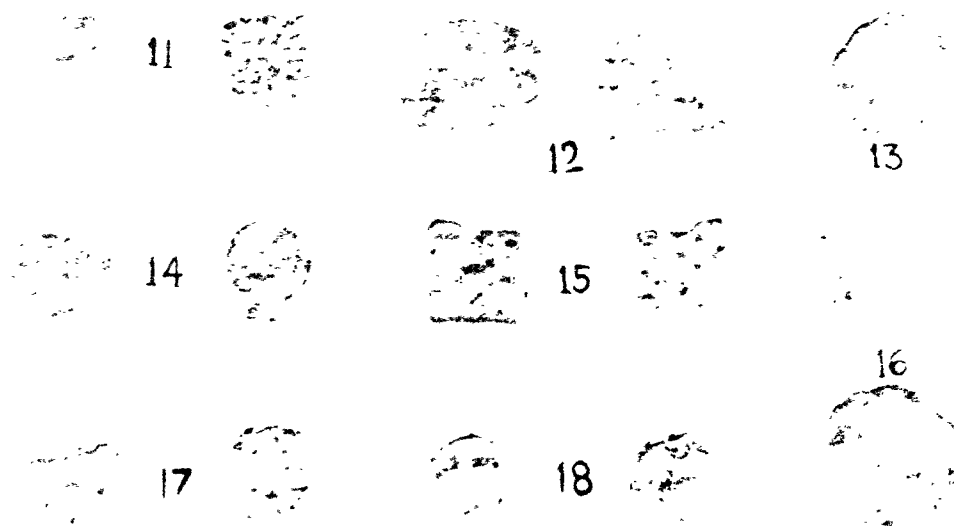
9



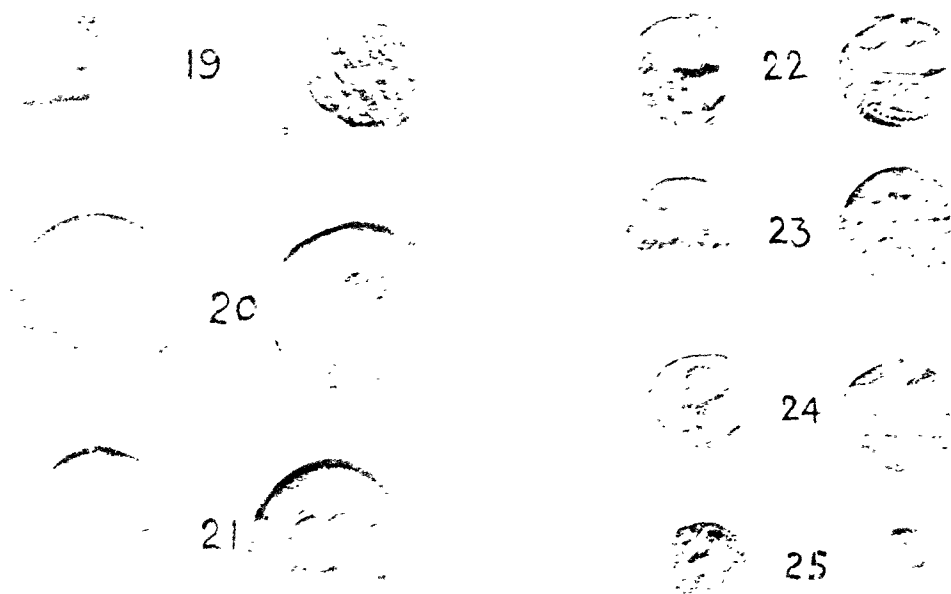
10

*Silver punch-marked coins, 7-8 (p. 88). Copper punch-marked coin, 9 (p. 90).  
Ayodhyā copper coin, 10 (pp. 98-9)*

A



B



*Copper cast coins, 11, 14-18; Kauśāmbī coins, 12, 13, 16, Coins of Bhūmimitra 19, Kanishka 20, Huvishka 21 and Chandra-gupta II, 22-25. See pp. 92-102*



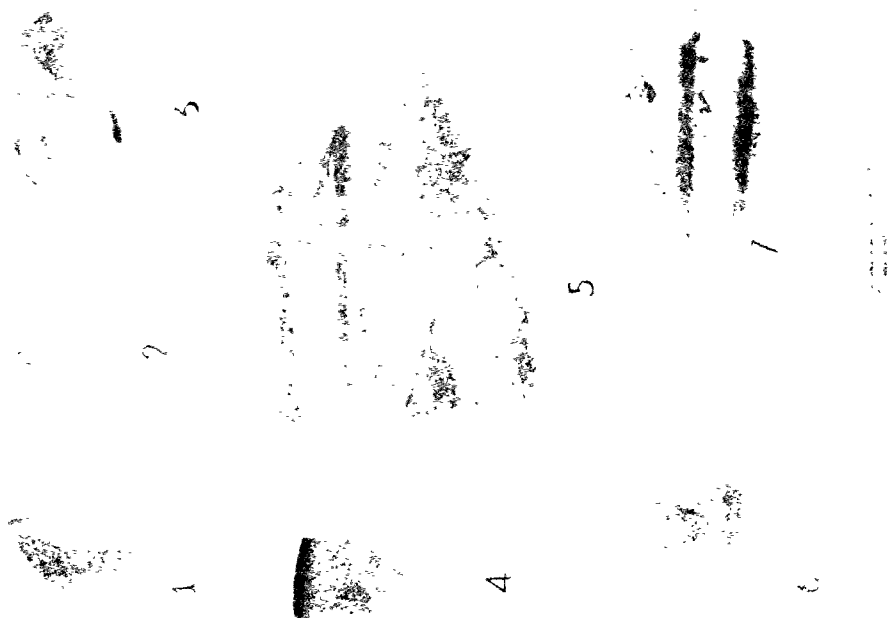
*Terracotta stamped lids, etc. No. 1 is upside down. See p. 129*



A



B

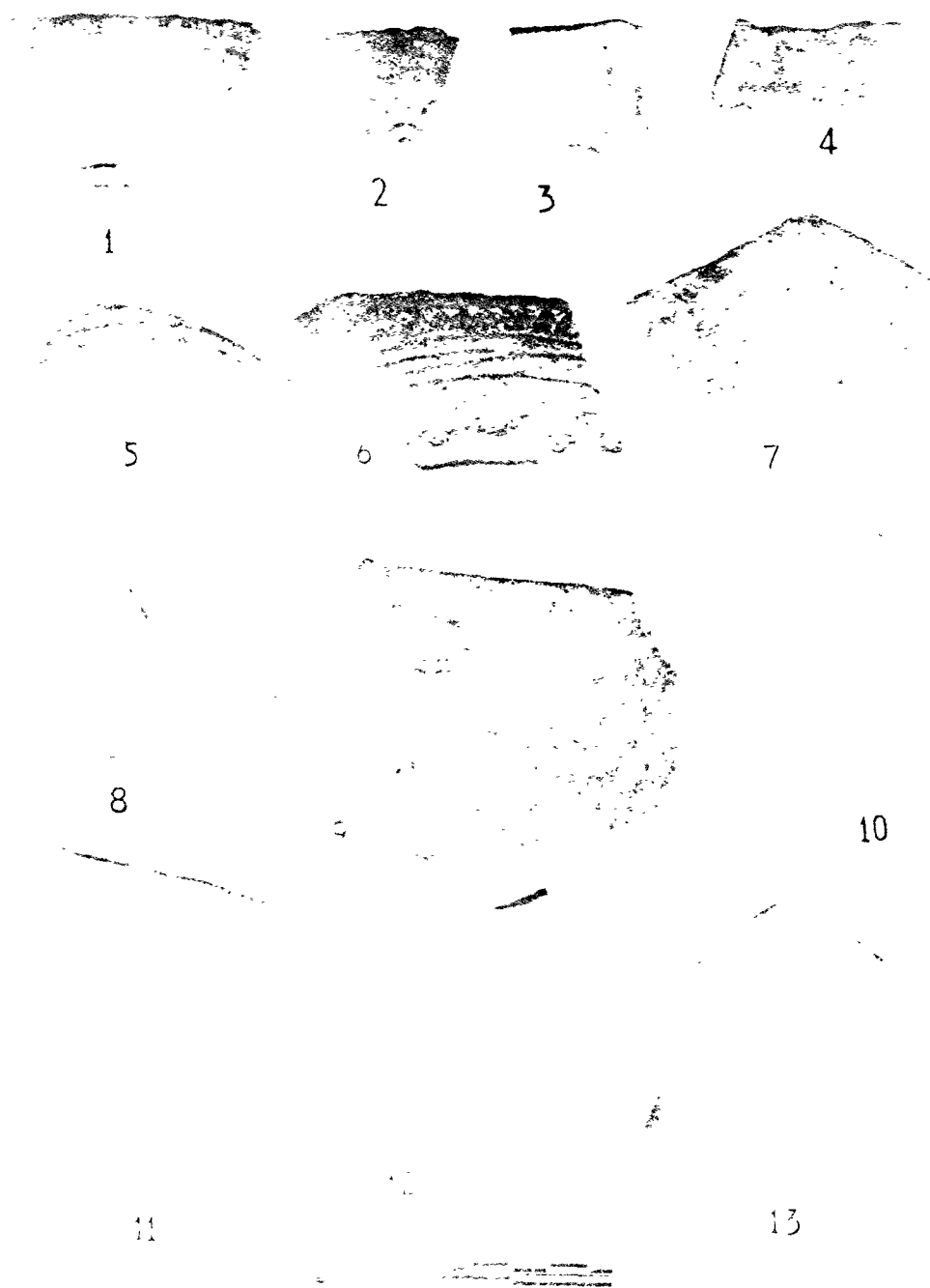


*Decorated and inscribed pot-sherds. See pp. 83-4  
Correction: No. 1 is topsy-turvy*

*Miscellaneous stone objects. See p. 138*



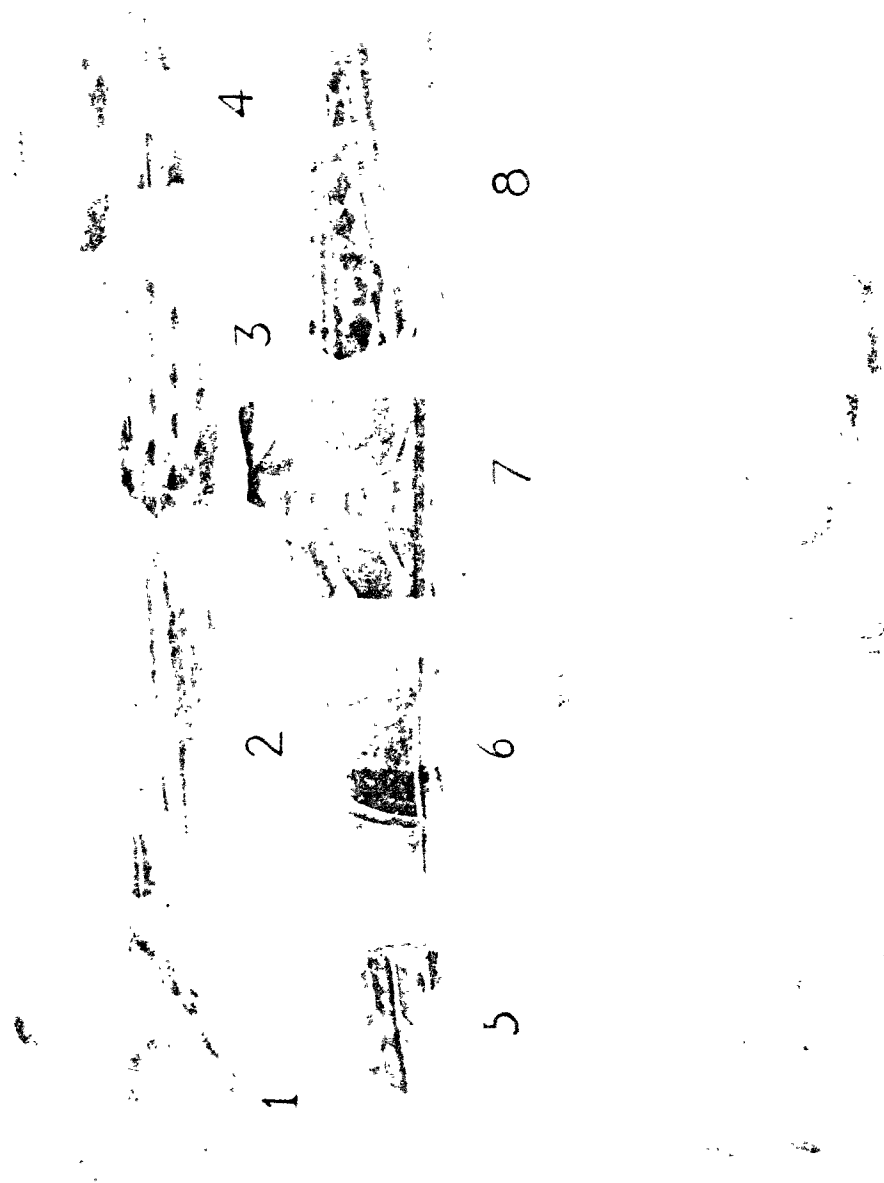
*Decorated pot-sherds. See pp. 83 f*



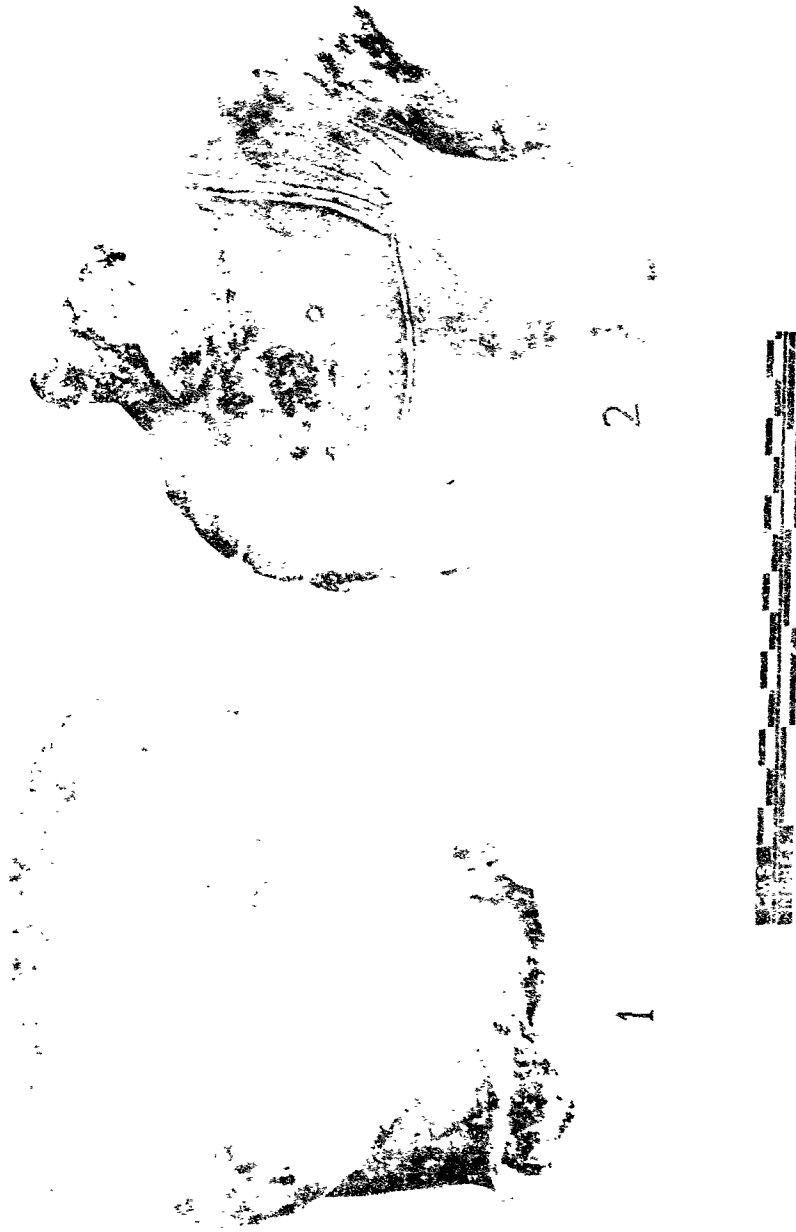


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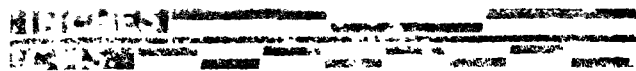
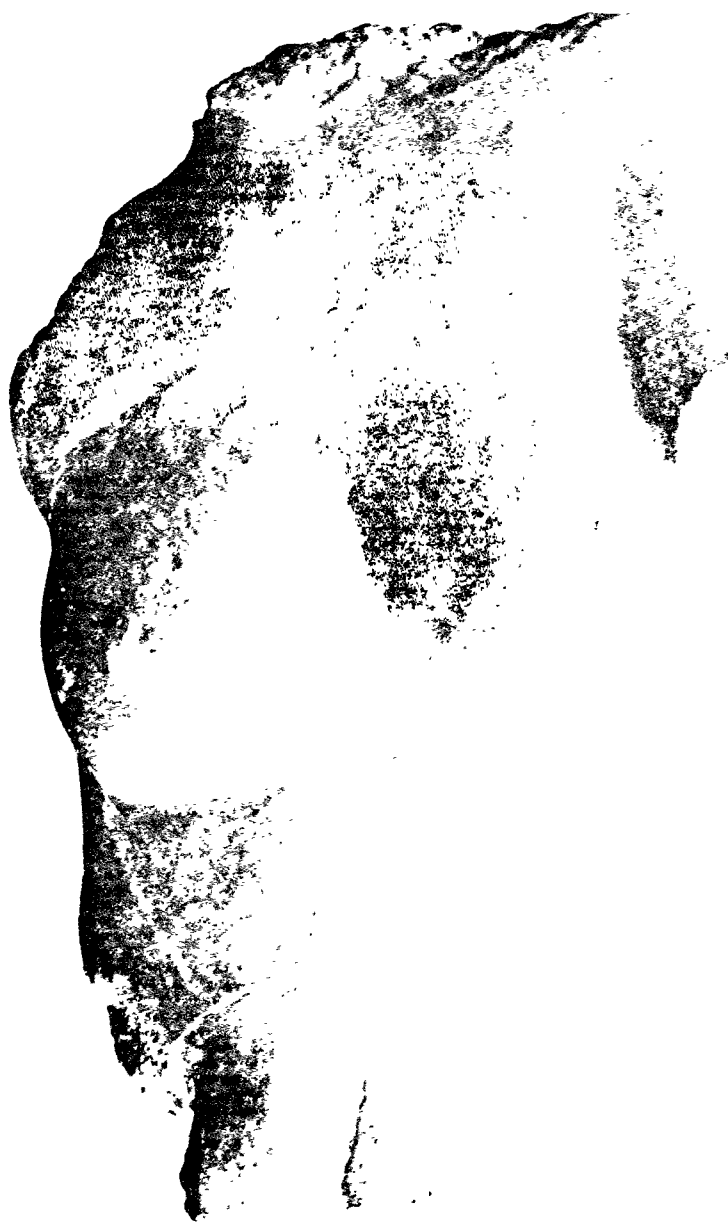
*A tile of the Gupta period. See p. 129*



*Fragmentary carved bricks. See p. 127*



*Terracotta female torsos. See p. 114*



*Terracotta female torso. See p. 114*

A



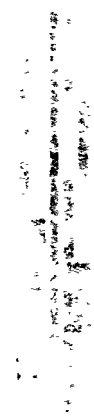
B



2



1

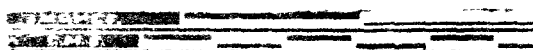
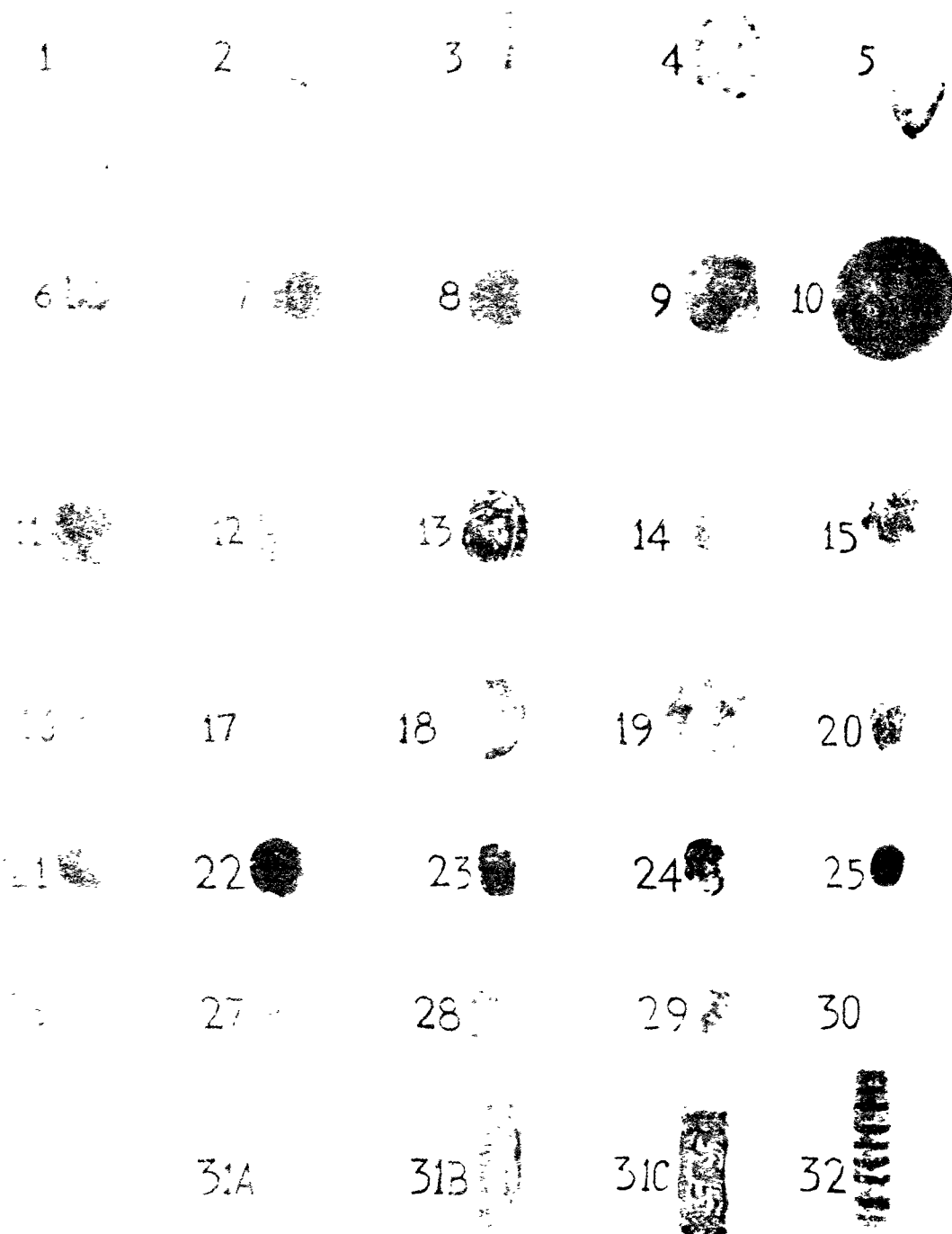


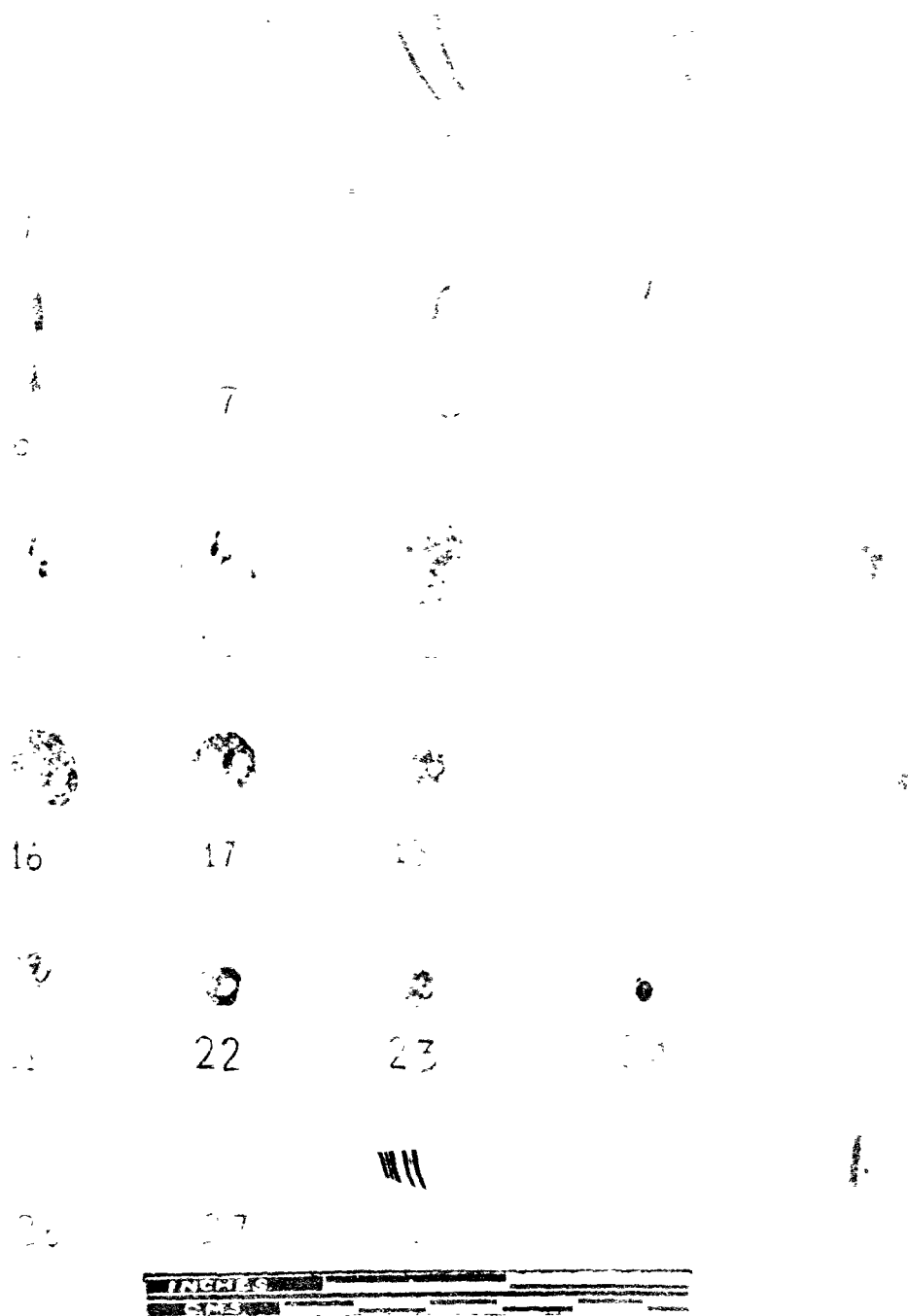
*Terracotta head of a woman.*

*Copper coil. See p. 136*



PLATE LXXX





*Beads. See pp. 133-34*

# PLATE LXXXII

A

B



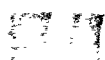
1



2



3



4



5



6



7

8



8



9



Beads. See p. 135

Beads. See pp. 134-35

CONTINUED.















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